ORAL ARGUMENT NOT YET SCHEDULED
Case No. 24-1170 (lead)
(consolidated with Nos. 24-1171, 24-1177)

United States Court of Appeals
For the District of Columbia Circuit

CLEVELAND-CLIFFS INC.

***Petitioner*,**

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY AND MICHAEL S. REGAN, ADMINISTRATOR, U.S. EPA,

***Respondents*.**

On Petition for Judicial Review of a Final Rule of the Environmental Protection Agency, 89 Fed. Reg. 23,294 (April 3, 2024)

REPLY IN SUPPORT OF MOTION FOR STAY

September 19, 2024

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GLOSSARY

Terms

ACI	Activated Carbon Injection
AISI	American Iron and Steel Institute
BOPF	Basic Oxygen Process Furnace
CAA	Clean Air Act
EPA	Environmental Protection Agency
HAP	Hazardous Air Pollutant
II&S	Integrated Iron & Steel Manufacturing
MACT	Maximum Achievable Control Technology
NESHAP	National Emission Standards for Hazardous Air Pollutants
RTR	Residual Risk and Technology Review
THC	Total Hydrocarbon
UFIP	Unmeasurable Fugitive and Intermittent Particulate Emissions
USW	United Steelworkers

INTRODUCTION

Extraordinary situations require extraordinary relief. Petitioner Cleveland-Cliffs Inc. ("Cliffs") has articulated with specificity each element necessary for the Court to grant a stay of the *National Emission Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing Facilities Technology Review*, 89 Fed. Reg. 23,294 (April 3, 2024) ("Rule"). EPA's August 14, 2024, notification of flaws in the Rule requiring correction and reconsideration further supports a stay. *See* EPA Resp., Ex. A.

EPA failed to meet its statutory burden to finalize a rule that is both necessary under Clean Air Act ("CAA") §112(d)(6) and meets the full statutory requirements of §112(d)(2)-(3). Nor can EPA rely on "deference" to override its disregard of valid material data that it had when making the Rule, or key data it could reasonably obtain to meet its statutory obligations in CAA §112(d)(3)(B). These failures resulted in numerous limits and work practices that are unachievable even by the best performing MACT floor sources contrary to CAA §112(d)(3). The Rule even makes it a violation to operate a safety device (bleeder valves) contrary to EPA's fundamental CAA duty to promote the public health and welfare. Petitioner is likely to succeed on the merits.

EPA also fails to counter the substantial evidence of immediate and irreparable harm that Petitioner will suffer absent a stay. EPA is wrong when it

claims Petitioner can comply with all new limits without any new controls. EPA ignores valid emissions data demonstrating the Rule's limits are not achievable by top performers, forcing Petitioner to incur extreme unrecoverable costs immediately to develop controls to meet overly stringent limits. These are the type of unrecoverable costs that courts find significant in weighing irreparable harm.

Finally, EPA already decided that human health is protected with an adequate margin of safety by the existing regulations imposed on this source category. This conclusion is supported by extensive fenceline and ambient air monitoring data. The public interest is far better served by staying a Rule that would increase local mercury deposition due to flawed mercury controls and avoiding unreasonable burdens on the critical domestic steel industry necessary to our national defense and infrastructure.

LAW AND ARGUMENT

I. PETITIONERS ARE LIKELY TO SUCCEED ON THE MERITS

A. EPA Failed to Make the Statutorily-Mandated Showing of Necessity.

EPA's Response confirms that the Rule fundamentally misapplies EPA's statutory obligation to revise emission limits only when necessary. In *Louisiana Envt'l Action Network v. EPA*, 955 F. 3d 1088 (D.C. Cir. 2020) ("*LEAN*"), this Court recognized that "Section 112(d)(6) review is the sole periodic, ongoing review of emission standards the Act requires." *Id*. at 1099. CAA §112(d)(6) expressly limits

EPA to only making changes that are "necessary (taking into account developments in practices, processes, and control technologies)." Neither EPA nor Intervenors dispute this plain statutory requirement. *See* EPA Resp. at 20; Intervenors Resp. at 7.

The *LEAN* court emphasized that "[t]he operative standard is 'revise as necessary,' with the parenthetical pointing to a non-exhaustive list of considerations" and clarifying that, "[t]o complete a defined task while taking certain factors into account means to be aware of or consider the factors, not to treat them as the exclusive determinants." 955 F.3d at 1097. In setting emission limitations under §112(d)(6), EPA *must* consider whether additional limitations are *needed*, including evaluating "'improvements in efficiency, reduced costs or other changes that indicate a previously considered option for reducing emissions that may now be cost effective or technologically feasible.'" *Nat'l Ass'n for Surface Finishing v. EPA*, 795 F.3d 1, 11 (D.C. Cir. 2015) (quoting 77 Fed. Reg. at 58,231); *see also Motor Vehicle Mfrs. Assn. of United States, Inc. v. State Farm Mut. Automobile Ins. Co*., 463 U.S. 29, 43 (1983).

EPA admittedly made no attempt to show that the Rule's new emission limitations and work practice standards are necessary based on ***any*** development. *See* Ex. J, Industry Comments, VII-2-5 (describing EPA's failure to consider technological infeasibility of proposed emission limitations and control equipment).

EPA simply pointed to "new data" it received that identified HAPs it argues were previously unregulated. From there, EPA leapt to the conclusion that, "pursuant to section 112 of the CAA and the *LEAN* court decision, we must promulgate MACT emissions limits based on available data in order to fulfill our court ordered CAA section 112(d)(6) obligations." 89 Fed. Reg. at 23,309. Merely finding a pollutant that *may* be detectable with no further analysis falls well short of what the statute requires. EPA must first assess whether further regulation is "necessary" under the full set of circumstances present. As discussed *infra* at I.B., the circumstances here do not support EPA's action. And EPA's utter failure to consider whether the Rule's new limits are necessary under CAA §112(d)(6) is a fatal defect warranting a stay.[1]

B. EPA Disregarded Statutorily Required Factors Under CAA §112(d)(1)-(3).

In the Rule, and again in its Response to Cliffs' Motion for Stay ("Response"), EPA continues to ignore the plain language of CAA §§112(d)(1)-(3), which mandates consideration of costs, adverse environmental impacts, and other factors when EPA sets limits. The function of these sections is straightforward:

(d)(1) instructs EPA to promulgate emissions standards;

[1] EPA failed to follow its statutory duty under the CAA regardless of how the "previously unaddressed HAPs" are reviewed (*i.e.*, §112(d)(6) or §112(d)(2)-(d)(3)). For example, in setting mercury limits for sinter/recycling plants in the Rule, EPA ignores that the source of mercury (in steel scrap) that sinter/recycling plants would recycle is already regulated. *See* 85 Fed. Reg. 42,074 (July 13, 2020).

(d)(2) describes how EPA is to set those standards, including identifying the factors[2] EPA must consider; and

(d)(3) provides that existing source emissions standards set under §112(d)(2) should not be lower than the average of any emissions limitations[3] already imposed on the source category.

The *LEAN* decision does not (and cannot) permit EPA to deviate from Congress's clear direction.

First, EPA continues to confuse "emissions" with "emissions limitations" as that second term is used in §112(d)(3), in direct contravention of the statutory definition. Second, EPA admits that it did not consider costs in setting emission standards under §112(d)(3). *See* EPA Resp. at 24-25. Instead, EPA attempts a backwards reading of the statute: *first* setting emissions standards under §112(d)(3) and *then* limiting its review of cost and adverse environmental impacts only to determine whether "standards *more* stringent than those actually achieved by the

[2] Factors include the "cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements." §112(d)(2).

[3] "Emissions limitation" is defined as: "[A] requirement ***established by the State or the Administrator*** which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under this Act." 42 U.S.C. §7602(k) (emphasis added).

best performing sources are possible," under §112(d)(2). EPA Resp. at 2 (internal quotation marks omitted)(emphasis added).[4]

EPA offers no textual or legislative history support for this convoluted interpretation. Instead, EPA relies on cases that did not involve direct challenges to the interpretation of cost considerations under §§112(d)(2)-(3) and were decided on now-vacated *Chevron* deference. *See* EPA Resp. at 24-27; *see, e.g., Nat'l Lime Ass'n v, EPA*, 233 F3d 625, 631-633 (D.C. Cir. 2000)("Relying on *Chevron*…"); *Ass'n of Battery Recyclers, Inc. v. EPA*, 716 F.3d 667, 673 (D.C. Cir. 2013) (relying on *Nat'l Lime Ass'n*, which relied on *Chevron*); *U.S. Sugar Corp. v. EPA*, 830 F.3d 579, 605 (D.C. Cir. 2016)("We review the EPA's construction of the statute under the two-part framework established in *Chevron*").

EPA's illogical reading cannot stand now that the U.S. Supreme Court has stricken *Chevron* deference. *See Loper Bright Enterprises v. Raimondo*, 144 S. Ct. 2244, 2273 (2024) (holding that "courts must exercise their independent judgment in deciding whether an agency has acted within its statutory authority" and that courts "may not defer to an agency interpretation of the law simply because a statute is ambiguous"). Rather, EPA must set emissions standards based on the factors

[4] Despite considering costs for the sinter/recycling plant "beyond-the-floor" limits, EPA admits its cost-effectiveness assessment of considering all pollutants together was after the public comment period, contrary to notice-and-comment rulemaking requirements under 42 U.S.C. §7607(d)(6). *See* EPA Resp. at 30.

Congress dictated—including cost and adverse environmental impact. *See Connecticut Nat. Bank v. Germain*, 503 U.S. 249, 253-54 (1992) ("courts must presume that a legislature says in a statute what it means and means in a statute what it says there"); *Earth Island Institute v. Hogarth*, 494 F.3d 757, 765 (9th Cir. 2007) ("An agency may not ignore factors Congress explicitly required to be taken into account.").

EPA has a statutory duty to consider impacts including cost (total cost and cost effectiveness) and environmental consequences of the Rule and admittedly failed to do so. The magnitude of unrecoverable costs are unprecedented for the industry and total "upwards of $3.2 billion total capital investment, $749 million in annualized costs for point sources." Ex. J, Industry Comments, II-24; VII-60. Comparing those costs against the modest emission reductions under the Rule – of millions of dollars per ton – utterly fails any cost-effectiveness threshold. *See id*. at VII-62. EPA also stands to ***increase*** environmental impacts by forcing industry to install untested control technology on sinter/recycling plants that could lead to increases in local deposition of mercury. Mot. Ex. F, Mysko Decl., ¶5; Mot., Ex. E Siats Decl., ¶19-22.[5] Given the above, Petitioners are likely to succeed on the merits.

[5] Contrary to EPA's assertion, declarations are routinely included in support of motions for stay. *See Citizens Coal Council v. Babbitt*, 2002 WL 35468435, at *1 (D.C. Cir. June 5, 2002) (considering affidavits by underground mine operators in the evaluation of irreparable injury for granting of a stay); *See also B.F. Goodrich*

C. EPA Cannot Hide Behind "Extreme Deference" to Support Limits That Violate Statutory Requirements.

EPA separately violated the plain language of CAA §112(d) by setting emission limits that are not achievable by the best performing sources. The existence of this "achievability" requirement is undisputed. *See* EPA Resp. at 2; Intervenors Resp. at 7. Limits must be "continuously achievable," including "under the worst reasonably foreseeable circumstances." *U.S. Sugar Corp. v. EPA*, 830 F.3d 579, 632 (D.C. Cir. 2016); *see also Sierra Club v. EPA*, 167 F.3d 658, 665 (D.C. Cir. 1999) ("*Sierra Club I*") ("[W]here a statute requires that a standard be 'achievable,' it must be achievable 'under most adverse circumstances which can reasonably be expected to recur.'") (quoting *Nat'l Lime Ass'n v. EPA,* 627 F.2d 416, 431 n. 46 (D.C. Cir. 1980)).

As it cannot contest the "achievability" requirement, EPA tries to transform the simple matter of data gathering into something technical warranting "extreme deference." EPA Resp. at 8-9. To the contrary, this is a simple statutory violation. EPA is on record "acknowledge[ding] that there are uncertainties because of the

Co. v. Dept. of Transp., 541 F.2d 1178 (6th Cir. 1976) (considering Petitioners' affidavits in granting a stay for NHTSA rulemaking on tire quality standards). Fed. Rule App. Proc. 18 anticipates just such "originals or copies of affidavits or other sworn statements" for stays pending review.

limited data"[6] and that a "small dataset [was] used for the MACT floor limits."[7] That problem (which was wholly of EPA's own making) prevented EPA from meeting the statutory requirement that emission limits reflect what was "achieved by the best performing 5 sources (for which the Administrator has or could reasonably obtain emissions information)." CAA §112(d)(3)(B). EPA claims it based these limits "on Petitioners' own emissions data achieved by the top-performing facilities" and that it used "all the valid data it received." EPA Resp. at 10, 12. But EPA neither used all the data it "ha[d]" nor what it "could reasonably obtain." CAA §112(d)(3)(B).

EPA ignored available data in the record, instead choosing to base certain limits on less than the statutory minimum of five sources. For example, EPA excluded valid total hydrocarbon ("THC") stack test data for two Basic Oxygen Process Furnaces ("BOPFs") from Cliffs' Indiana Harbor facility despite vacancies in the MACT floor, while failing to acknowledge that EPA's approved test method was strictly followed. *See generally* Ex. K, Murphy Decl. Ignoring valid data and basing limits on less than the minimum number of sources directly contradicts the plain statutory language. *See Dist. Hosp. Partners, L.P. v. Burwell*, 786 F.3d 46, 56-57 (D.C. Cir. 2015) ("[Agencies] cannot *ignore* new and better data" (emphasis in original)). This is no mere hypothetical concern. The data EPA ignored was ***four***

[6] 89 Fed. Reg. at 23,309.
[7] EPA Resp., Ex. I ("Response to Comments") at 185 ("EPA acknowledges the small dataset used for the MACT floor limits.").

times higher than the standard ultimately set in the Rule. *See* Mot. Ex. E, Siats Decl., ¶6. Disregarding that data artificially lowered the limit.

Despite its broad data collection authority,[8] EPA also failed to pursue material variability information, as required by CAA §112(d)(3)(B). During the public comment period, EPA was told that the limited dataset "do[es] not represent performance of these 'floor units' across the range of operations, processes, potential raw materials inputs…products…and seasons in which a facility operates." Ex. J, Industry Comments, VII-7. Industry provided additional information and was willing to provide more, but EPA never requested it. Instead, EPA disregarded these concerns and finalized the Rule, contradicting the statutory instruction that EPA set limits based on data EPA "could reasonably obtain." This omission too had material ramifications. *See* Mot. Ex. D, Remsberg Decl., ¶11(a)-(e); Mot. Ex. E, Siats Decl., ¶¶6-7 (explaining how additional stack testing for reconsideration demonstrates "process variability that is not represented in the final limits"). EPA cannot jump to conclusions while lamenting it had limited information – all EPA had to do was ask.

D. Limits on Bleeder Valve Openings Will Produce Absurd Results.

By setting a limit on the number of unplanned bleeder (safety) valve openings allowed, EPA required industry to choose between compliance and safety. EPA's response is startling: choose noncompliance, as "the consequence would be a

[8] *See* 42 USC § 7414(a).

penalty, not an explosion." EPA Resp. at 36. Forcing industry to violate the law to avoid explosions is exactly the type of absurd result that warrants a stay.

As this Court has held, "[i]n deciding whether a result is absurd, we consider not only whether that result is contrary to common sense, but also whether it is inconsistent with the clear intentions of the statute's drafters—that is, whether the result is absurd when considered in the particular statutory context." *Mova Pharm. Corp. v. Shalala*, 140 F.3d 1060, 1068 (D.C. Cir. 1998). EPA's error in establishing the limits, and insistence to limit blast furnace bleeder openings in the Rule, places Cliffs in the absurd position of choosing between safety and compliance. This is the essence of arbitrary and capricious rulemaking.

II. PETITIONERS WILL SUFFER IMMINENT AND IRREPARABLE HARM ABSENT A STAY

A. EPA's Planned Correction and Limited Grant of Reconsideration Bolsters the Need for Immediate Relief.

EPA recently provided notice that "certain errors and ambiguities in the II&S Final Rule that were brought to our attention by your reconsideration petitions," will lead EPA to "issue a correction notice within the next few months." EPA Resp., Ex. A, 2. This concession bolsters the need for immediate relief.

While EPA's limited number of areas highlighted for review do not resolve Cliffs' Motion for Stay, they illustrate the Agency's fundamental doubts about the Rule. EPA notes: "Given the large amount of complex data involved in developing

the II&S Final Rule, as we prepare to reconsider aspects of the rule and develop the corrections notice, we may identify other issues suitable for reconsideration." *Id*. Absent a stay, Cliffs must work overtime to meet impending compliance deadlines (beginning April 3, 2025) while facing uncertainty about whether EPA will change the rules midstream.

B. The Assertion that Cliffs Can Knowingly Violate the Laws to Avoid Harm Resulting from Preventing Bleeder Openings is a Hobson's Choice.

EPA's intent to correct the unplanned bleeder valve limit to apply only to dirty gas bleeder valves, EPA Resp., Ex. A., does nothing to address irreparable harm. Rather, "The two MACT Floor limitations for unplanned valve openings is not achievable for MACT Floor sources in either subcategory even when taking into account EPA's intent to correct the rule." Ex. M, Remsberg Supp. Decl., ¶10.

Forcing industry to knowingly violate the law to keep workers safe poses irreparable harm by confronting Cliffs with a "Hobson's choice" of knowingly violating the Rule (with potential reputational, civil and criminal consequences) or risking an explosion or other catastrophic event. *See* 42 U.S.C. §7413(c)(1) (imposing criminal penalties); *Morales v. Trans World Airlines, Inc*., 504 U.S. 374, 381 (1992) ("[R]espondents were faced with a Hobson's choice: continually violate the Texas law and expose themselves to potentially huge liability; or violate the law once as a test case and suffer the injury of obeying the law during the pendency of

proceedings and any further review"). The same sources used to establish the limit cannot comply, and ***any*** limit creates the same untenable choice between noncompliance and safety. *See* Ex. M, Remsberg Supp. Decl., ¶¶9-11. Congress surely did not intend for facilities to risk catastrophic explosions to avoid knowing violations under the CAA.

C. Even MACT Floor Sources Cannot Achieve Limits Requiring Cliffs To Immediately Begin Work to Assess and Implement Control Technology.

EPA and Intervenors claim that Cliffs somehow failed to show why work needs to begin immediately, despite the detailed laundry list of efforts required to evaluate and install necessary controls before the compliance deadlines. *See* EPA Resp. at 38; Intervenors Resp. at 26. Instead, EPA and Intervenors (who have no experience operating complex steelmaking facilities) incorrectly presume the Rule's limits are achievable without new controls. *See* EPA Resp. at 38; Intervenors Resp. at 26. The data confirm the opposite. As detailed by the expert declarations supporting Cliffs' Motion and Reply, the MACT floor sources do not achieve the limits imposed when all valid data, and reasonably available data, is evaluated. *See* Mot. Ex. E, Siats Decl., ¶¶ 4, 6-7, 18; Mot. Ex. D, Remsberg Decl., ¶11-12; Ex. M, Remsberg Supp. Decl., ¶11; Ex. N, Baum Decl., ¶¶9-10; Ex. K, Murphy Decl., ¶¶19-20; Ex. J, Industry Comments, VII-43-52 (identifying areas where EPA erroneously assumed no new control devices would be needed and where existing technology

may not appropriately transfer due to the unique nature of II&S point sources). EPA has already included the Blast Furnace Casthouse hydrogen chloride limit in the reconsideration scope, acknowledging errors in establishing the limit pursuant to Cliffs' reconsideration petition. *See* EPA Resp., Ex. A.

The Rule mandates a compressed timeline to research and develop new control technologies. *See* Ex. L, Mysko Supp. Decl., ¶¶ 8-11; Motion Ex. C, Palmer Decl., ¶¶13-18. Cliffs must evaluate each of its eight unique Blast Furnaces, seven BOPFs, and two Sinter/Recycling Plants affected by the Rule to develop and install novel technologies that will be required to comply. *See* Ex. L, Mysko Supp. Decl., ¶5.c.d. For example, even though they are at the same facility, Cliffs' Indiana Harbor BOPFs – which should have been included in the MACT floor pool for total hydrocarbons – employ different existing control technology requiring evaluation of different additional technology to address this pollutant. *See id*. Cliffs' experience in implementing ***known*** technology to meet HAP limits in the original II&S NESHAP, which took almost eight years to complete, emphasizes the impossibility of industry developing ***unknown***, novel technology across multiple emission unit types in less than half of the time here. *See generally* Ex. M, Baum Decl. EPA's and Intervenors' bald assertions otherwise are meritless.

D. **The Substantial, Unrecoverable Costs That Cliffs Faces Chasing Compliance Supports A Stay.**

EPA has not met its burden for a "reasoned explanation," as discussed above, before it imposes "unrecoverable losses of millions of dollars on petitioner." *In re NTE Connecticut, LLCI*, 26 F. 4th 980, 991 (D.C. Cir. 2022). EPA also misrepresents the nature of costs Cliffs will suffer to discredit them as a valid basis for stay. EPA relies on cases where economic costs were recoverable and/or speculative. *See* EPA Response at 36 (quoting *Wis. Gas. Co. v. FERC*, 758 F.2 669, 674 (D.C. Cir., 1985)). To the contrary, the type of harm contemplated here includes hundreds of millions in unrecoverable research, development, testing, equipment fabrication and other related compliance costs that will be incurred during the pendency of the litigation. *See* Mot. Ex. C, Palmer Decl., ¶18.

Such costs are directly comparable to the unrecoverable costs recently evaluated and confirmed to be a "strong argument about the harms" by the Supreme Court in *Ohio v. EPA*, 144 S.Ct. 2040, 2053 (2024); *see also* Ex. O, American Forest & Paper Emergency App., at 3 (pointing to nonrecoverable costs of at least $770 to $910 million per year to regulated industry "during the course of litigation" and deprivation of permanently lost future revenues); Ex. P, State Emergency App., at 23-24 ("Because these costs are unrecoverable against the federal government, the States are irreparably harmed every day that passes without a stay.").

In making its determination in *Ohio v. EPA*, the Supreme Court cited its own precedent as well as the D.C. Circuit to support the consideration of unrecoverable costs when evaluating irreparable harm to support a stay. *See, e.g., Thunder Basin Coal Co. v. Reich*, 510 U.S. 200, 220–221 (1994) (Scalia, J., concurring in part and concurring in judgment)("[C]omplying with a regulation later held invalid almost *always* produces the irreparable harm of nonrecoverable compliance costs" (emphasis in original)); *Alabama Assn. of Realtors v. Department of Health and Human Servs*., 594 U.S. 758, 765 (2021) (*per curiam*) (explaining how petitioners were left with "no guarantee of eventual recovery" of rent payments).

EPA and Intervenors otherwise attempt to minimize the impact of these unrecoverable costs by comparing cost estimates of the Rule implementation to a snapshot of parent company annual revenues. Setting aside the general economic principle that revenue does not equal profits, this myopic view sidesteps the true impact of the Rule. The Rule imposes dozens of new unachievable emission limits and work practice standards affecting multiple emission sources at each of the five II&S facilities operated by Cliffs. Costs to develop unproven, novel technology to attain continuous compliance at any facility may cripple that facility's economic viability and high-paying middle class union jobs. When the totality of pending EPA rules impacting the steel industry are accounted for, they cumulatively threaten the

economic viability of an entire industry vital to the Nation's security and economy.[9] In addition, the novel argument of "affordability" versus "economic reasonableness," which has historically been evaluated in terms of cost per ton of pollutant removed (and is wholly unreasonable here), is contrary to the statute and precedent.

E. Cliffs Expeditiously Sought a Judicial Stay.

Finally, EPA attempts deflection by alleging that Cliffs' motion was unreasonably delayed. *See* EPA Resp. at 39. But EPA cannot ignore its own failure to respond to Cliffs' timely petition for administrative stay on June 3, 2024. Cliffs gave EPA a reasonable period (three weeks) to respond to its administrative stay request. After receiving no response from EPA, Cliffs' promptly filed the instant Motion for Stay with this Court. Giving EPA three weeks to stay the Rule of its own accord before seeking judicial relief is imminently reasonable.[10]

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[9] *See NESHAP for Taconite Iron Ore Processing*, 89 Fed. Reg. 16,408 (March 6, 2024); *NESHAP for Integrated Iron and Steel Manufacturing Facilities Technology Review*, 89 Fed. Reg. 23,294 (April 3, 2024); *NESHAP for Coke Ovens: Pushing, Quenching, and Battery Stacks, and Coke Oven Batteries; Residual Risk and Technology Review, and Periodic Technology Review*, 89 Fed. Reg. 55,684 (July 5, 2024); *see also* Mot., Ex. I.

[10] EPA's cases are readily distinguishable. *See Benisek v. Lamone*, 585 U.S. 155, 158-159 (2018) (six-year delay); *Wreal, LLC v. Amazon.com, Inc.*, 840 F.3d 1244, 1248 (11th Cir. 2016) (five-month delay); and *Shaffer v. Globe Prot., Inc*., 721 F.2d 1121, 1123 (7th Cir. 1983) (pro-forma request for relief insufficient); *Fund for Animals v. Frizzell*, 530 F.2d 982, 987 (D.C. Cir. 1975) (two-month delay inexcusable when impact of regulation effectively over).

III. A STAY IS IN THE PUBLIC INTEREST

EPA and Intervenors claim a stay risks harm to the public from HAP emissions without directly addressing the contrary evidence in Cliffs' Motion. EPA ignores its own residual risk analysis, unchanged by the Rule, which concluded that an ample margin of safety exists from these same sources. *See* EPA Resp. at 4 (quoting 85 Fed. Reg. at 42,074). EPA and Intervenors similarly ignore years of fenceline monitoring data for large II&S operations with sinter plants, which demonstrates the absence of risk from lead or arsenic, which were the primary risk assessment drivers. *See* Mot. Ex. D, Remsberg Decl., ¶8.

Nor is the public interest served by shifting the form of mercury emitted to a species more dangerous to local populations. Absent a stay, activated carbon injection must be pilot tested during this litigation. If that happens, local populations will be exposed to more particle-bound mercury because the control devices cannot capture 100% of the particulate matter, which deposits locally. EPA and Intervenors offer nothing factual to counter this threat. *See* EPA Resp. at 41; Intervenors Resp. at 31-32.

EPA instead argues that equities cut against a stay because the Rule imposes "modest and easily attainable emission reductions." EPA Resp. at 43. That flatly contradicts the evidence in the record and supporting this motion. As detailed above, absent relief Cliffs will be required to expend exorbitant sums starting immediately

at every one of its five II&S facilities in hopes of finding a way to comply. As recognized from Unions to members of Congress, the Rule puts the viability of these operations—and an entire critical US industry—at grave risk. *See* Mot. Exs. G-I. The lack of environmental risk, reality of imminent harm from the Rule, and EPA's near-term intent to reconsider and revise the Rule all support the public interest element of a stay.

CONCLUSION

Issuing a stay prevents imminent harm to a source category for which EPA has found no residual risk, holds requirements that could cause catastrophic events and adverse environmental impacts, and provides an opportunity for EPA to course-correct a Rule incompatible with the tenets of the CAA. For the foregoing reasons, Cliffs respectfully requests this Court stay the Rule.

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

I certify that this document complies with the type-volume limitation of Fed. R. App. P. 27(d)(2) and this Court's July 8, 2024 Order (Doc #2063334). The Reply contains 4,393 words, excluding the parts exempted by Fed. Rule App. Proc. 32(f), which, when combined with United States Steel Corporation's Reply, is less than one-half the aggregate word count of the responses to the stay motions.

I also certify that this document complies with the requirements of Fed. Rule App. Proc. 27(d)(1)(E), including the typeface requirements of 32(a)(5) and the type-style requirements of 32(a)(6), because it has been prepared in a proportionally spaced typeface using Microsoft Word in Times New Roman, 14-pt font.

Dated: September 19, 2024

Respectfully submitted,

/s/*Lianne Mantione*

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CERTIFICATE OF SERVICE

I hereby certify that on September 19, 2024, I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the District of Columbia Circuit by using the CM/ECF system. Participants in the case who are registered CM/ECF users will be served by the CM/ECF system.

/s/*Lianne Mantione*
Lianne Mantione

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EXHIBIT J:

Excerpts from Comments of the American Iron and Steel Institute and United States Steel Corporation (Sept. 29, 2023), EPA-HQ-OAR-2002-0083-1631 ("Industry Comments")

COMMENTS OF THE

AMERICAN IRON AND STEEL INSTITUTE

AND

UNITED STATES STEEL CORPORATION

National Emission Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing Facilities Technology Review; Proposed Rule

88 Fed. Reg. 49,402 (July 31, 2023)

Docket No. EPA-HQ-OAR-2002-0083

SUBMITTED SEPTEMBER 29, 2023

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II. The proposal is based on flawed data that overestimates the risk reductions and benefits achieved with the proposed standards and fails to properly consider EPA's finding that this source category poses very low risk under the current standards.

The proposed rule suffers from significant procedural and technical flaws that have allowed the Agency to incorrectly inflate source category risks and the potential benefits of the proposed controls. Although EPA's use of the incorrect data still produces estimates of residual risk well below the presumptively acceptable ample margin of safety (AMOS) threshold of 100 in a million, the Agency has a statutory duty to base its decisions on factually accurate estimates of emissions and risk. To do otherwise would be arbitrary and capricious, and an abuse of the Agency's discretion.

As detailed in these comments and in previous submissions to EPA (Docket number EPA-HQ-OAR-2002-0083-1059), applying corrected facility retest data reduced the maximum individual risks for point and nonpoint sources at the example worst-case II&S facility (the Gary Works facility) to 8 in a million based on actual emissions and 20 in a million based on allowable emissions.

In the final 2020 RTR rulemaking, EPA included AISI's corrected values in the table reproduced below. EPA also acknowledged, based on the AISI testing results, that the EPA-developed risk estimates for point and nonpoint sources (based on actual and allowable emissions for the Gary Works example facility) were likely overestimates of the true risks. This further confirms the Agency's decision that the existing source category standards were protective with an ample margin of safety. While the Agency did not revise its risk estimates in making its 2020 determination, it indicated there was no need to do so because the test data only made the risk estimates lower, that is, more protective. And, as here, EPA was operating under a court-ordered (self-negotiated) deadline, such that it just did not have the time to rerun the risk model with the correct information. EPA also stated in the final RTR that, "once we incorporate the new test data into our analysis and rerun our model, the risks will be lower.

TABLE 5—COMPARISON OF THE INHALATION RISK ESTIMATES FOR POINT AND NONPOINT SOURCES FOR EXAMPLE FACILITY BASED ON THE EPA AND AISI ANALYSES

Emissions	Inhalation chronic cancer risks					
	MIR (in 1 million)		Population with risks >1-in-1 million		Population with risks >10-in-1 million	
	Based on EPA's risk analysis	Based on AISI's risk analysis	Based on EPA's risk analysis	Based on AISI's risk analysis	Based on EPA's risk analysis	Based on AISI's risk analysis
Actual	20	8	4,000,000	500,000	9,000	0
Allowables	50	20	4,000,000	NA	90,000	NA

NA = Not available.

In the final RTR EPA referenced AISI's more recent arsenic test data for the example facility and discussed in detail the impact of the AISI updated analysis on the Agency's risk estimates:

> Furthermore, it is important to note that after the EPA completed its risk modeling, the American Iron and Steel Institute (AISI) provided additional, more recent test data for the example facility that suggest arsenic emissions are lower than the level

> we estimated based on the 2011 information collection request (ICR) data that we used in our analysis (Docket ID Item No. EPA–HQ–OAR–2002–0083–0804). The AISI also conducted their own risk assessment using the new data and using the same modeling methodology that the EPA uses. The results presented by AISI (described in the EPA's proposal preamble at 84 FR 42704) indicate the MIR when the UFIP emissions are included could be about 60 percent lower than the estimated value in the EPA's risk characterization presented above (i.e., 8-in-1 million compared to the EPA's estimate of 20- in-1 million) and that population risks also could be substantially lower than the EPA's estimate presented above in this preamble, with an estimated 500,000 people with risks greater than or equal to 1-in-1 million compared to the estimate of 4,000,000 in the EPA's risk characterization. Therefore, we conclude the emissions used in our risk assessment are likely conservative (upper-end) estimates.[1]

EPA's current failure to consider the retest data, and the other data corrections provided in 2019 by AISI which further reduced risk, in this proposal is an example of clear bias. EPA's mistakes include basic factual errors—such as assuming a maximum steel production rate for one facility that exceeds its operating permit, and the use of unrealistic scale-up factors that assume facilities can produce 70 times more than the production rates used in the stack tests. Use of corrected data based on actual facility operating permit conditions, production levels, and emissions shows baseline maximum individual risk (MIR) for the source category of less than 8 in a million, with no meaningful HAP benefits from additional controls. The overall risk shown in Table 1 below from point sources, conducted by AISI in 2019 using corrected information, demonstrates substantially lower risks than what EPA has estimated using the flawed datasets.

Table II.1 – Overall Risk for the Source Category Point Sources (Without UFIPs) from AISI's 2019 Analysis

Scenario	# of Plants	Max. Individ'l Cancer Risk		Population at Increased Cancer Risk		Annual Cancer Incidence		Max. Chronic Noncancer TOSHI		Max. Screening Acute Noncancer HQ
		Actual Emissions	Allowable Emissions	Actual Emissions	Allowable Emissions	Actual Emissions	Allowable Emissions	Actual Emissions	Allowable Emissions	Actual Emissions
Proposed Rule	11	10.0	70.0	64,000	6,000,000	0.003	0.30	0.10 (develop'al)	0.9 (develop'al)	0.3 (arsenic)
Corrected by Industry in 2019	10	0.9	7.8	0	523,425	0.020	0.12	0.03 (neuro.)	0.2 (neuro.)	0.2 (elemental mercury)

Instead of considering and incorporating the AISI-submitted facility retest data in this review, as EPA stated in 2020 was its intent, EPA has decided to inflate the base risks further by continuing to rely on abnormal and statistically unrepresentative individual HAP test results that are 350 times higher than the next highest test result, despite the fact that EPA originally flagged the data as a potential outlier. As discussed in more detail below, further analysis of these individual HAP

[1] 85 Fed. Reg. 42,074, 42,083 (July 13, 2020),

values by an independent auditor confirms, as anticipated, that the individual HAP test results are indeed outliers as a result of faulty test methods and not representative of potential exposures. Additional corrections detailed below, including corrections to production data and scale-up factors, would further reduce EPA's inflated risks.

AISI respectfully requests that EPA correct the many errors and invalid assumptions cited in these comments and in AISI's 2019 analysis, rerun its models, and seek additional public comment and review in a supplemental proposal. Failure to correct this officially disseminated information is contrary to the Administration's scientific integrity principles and would constitute a violation of the Information Quality Act, which requires that data be presented in an objective, unbiased manner.

These are not inconsequential adjustments. EPA provides no explanation for its failure to amend its current estimates based on the 2019 AISI data and no discussion of the factors that explains their difference from EPA's current estimates. EPA's current decision to largely ignore this information, coupled with its failure to provide a reasoned basis for excluding its consideration in its risk estimates, is contrary to law and renders the proposed rule fatally flawed. EPA cannot ignore data of central relevance in an apparent attempt to overestimate risks and benefits to justify further regulation. Failure to consider evidence of central relevance to the rulemaking renders the proposal arbitrary and capricious and otherwise an abuse of agency discretion.

AISI has invested additional resources following the 2020 RTR to further improve the accuracy of the UFIP and facility-specific emission test data. As discussed further below and in the attached technical analysis in Appendix B or F, EPA's analysis of UFIP emissions suffers from double-counting errors and the use of unsupported and often inconsistent emission factors, throughput estimates, and HAP/PM ratios that significantly overstate risk. When correcting these errors, among others, AISI's Scenario II, which incorporates all of the corrections identified in Appendix B or F, finds exposure and risk levels that are lower than AISI's previous 2019 analysis and substantially lower than EPA's presented data. Scenario II for the example facility, Gary Works, using the 2011 production and the 2016 meteorological data (consistent with EPA's modeling for the 2020 RTR rulemaking) now shows that the MIR from baseline emissions of UFIPs is 1.7 in a million, substantially lower than the AISI-estimated 8 in a million MIR noted by EPA in the 2020 RTR, as shown in Table 2. The HEM4 modeling files for Scenario II are provided in Appendix R. The imposition of additional controls proposed in this rulemaking would reduce this value by only 0.1 in a million.

Table II.2 – Category Actuals Risk for the Example Facility (Point and Fugitive Sources), Baseline and Post-Control

Modeled Case	Cancer Risk (in a million)	Cancer Incidence (excess cases per year)	Population Exposed (>1-in-a-million)	Reduction in Risk
Scenario II, Baseline	1.7	0.01	1,040	0.1 in a million
Scenario II, Post-Control	1.6	0.01	604	

The discussion that follows details EPA's record of failure, as shown in the proposed rule, to update and refine its risk models based on the extensive AISI emission testing, modeling, and risk data submitted as part of the 2020 RTR. The emission and model flaws affect EPA's approach to estimating risk from point sources and nonpoint fugitive emissions. These comments also show that more recent monitored data for lead, arsenic, and chromium from the 2022 ICR when compared to the 2019-2020 modeled concentrations show significantly lower monitor-to-model concentration ratios than purported by EPA, confirming the industry's *de minimis* source category emissions and risks.

A. In 2020, EPA conservatively determined that AISI source category risk was well below the acceptable levels established by the Congress and that existing standards are protective of public health with an ample margin of safety, and the proposal does not reopen or even question EPA's conservative 2020 determination.

Following a MACT standard's initial promulgation under Section 112(d)(2), EPA is directed by Section 112(f)(2) to "determine whether promulgation of additional standards is needed to provide an ample margin of safety (AMOS) to protect public health or to prevent an adverse environmental effect."[2] This review is known as the "residual risk review," and, in the case of the II&S source category, EPA finalized that residual risk review as part of its combined "risk and technology review" (RTR) in July 2020.[3] As the proposal (briefly) recites, "[i]n the 2020 final rule, the Agency found that risks due to emissions of air toxics from this source category were acceptable and concluded that the NESHAP provided an ample margin of safety to protect public health."[4] EPA's decision not to revisit that conclusion confirms that EPA supports the 2020 AMOS determination and sees no reason for amendment.[5] In fact, as these comments later demonstrate, detailed corrected emission and modeling data show that the remaining risks are significantly smaller than even the low levels EPA estimated in 2020.

EPA has long described the approach by which it undertakes the required residual risk review under CAA Section 112(f)(2) as involving two steps. In the first step, EPA "determines whether risks are acceptable," a determination that "considers all health information, including risk estimation uncertainty" and which "includes a presumptive limit on maximum individual lifetime [cancer] risk (MIR) of approximately 1 in 10 thousand."[6] In those circumstances where risks are

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[2] 88 Fed. Reg. 49,407.
[3] 85 Fed. Reg. 42,074 (July 13, 2020) (hereinafter the "2020 RTR").
[4] 88 Fed. Reg. 49,408.
[5] Nor could it if EPA wanted to, given that the residual risk review is, under the plain language of the statute, a one-and-done thing. *See*, *e.g.*, *Louisiana Environmental Action Network v. EPA*, 955 F.3d 1088, 1093 (D.C. Cir. 2020) ("In addition to its section 112(d)(6) review, EPA under section 112(f)(2) must conduct a *one-time review* within 8 years of promulgating an emission standard to, among other things, evaluate the residual risk to the public from each source category's emissions and promulgate more stringent limits as necessary . . . ." (emphasis added)).
[6] *See* 84 Fed. Reg. at 42,707 (internal quotation marks omitted; footnote omitted). The 1 in 10 thousand "presumptive limit" is more commonly expressed as "100-in-1 million." As EPA further explains, "MIR, one metric for assessing cancer risk, is the estimated risk if an individual were exposed to the maximum level of a pollutant for a lifetime." *Id.* at 42,707 n.1. In other words, the assessment of risk on the basis of MIR is an extremely conservative approach to start with.

found to be "unacceptable," EPA "must determine the emissions standard necessary to reduce risk to an acceptable level without considering costs."[7]

In the second step, EPA then "considers whether the emissions standards provide an ample margin of safety to protect public health," while taking into account "all health information, including the number of persons at risk levels higher than approximately 1-in-1 million," as well as "other relevant factors, including costs and economic impacts, technological feasibility, and other factors relevant to each particular decision."[8] EPA is required to promulgate revised emission standards "necessary to provide an ample margin of safety to protect health," but it does not need to promulgate revised emission standards where it determines that the standards being reviewed already "provide an ample margin of safety [AMOS] without any revisions."[9] After conducting this so-called "AMOS" analysis, EPA concludes the second step of the analysis by "consider[ing] whether a more stringent standard is necessary to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect."[10]

EPA took this approach in the residual risk review it performed in conjunction with the 2020 RTR rulemaking. The proposed rule was issued for comment in August 2019, and the final rule was promulgated in July 2020. In the 2020 final rule, EPA concluded (using worst-case allowable point and UFIP emission estimates from different facilities) that it was "likely that the cancer MIR based on allowable emissions" would be "less than 90-in-1 million," with EPA's deriving that risk figure by taking its estimated MIR of 70-in-1 million from the worst individual point source and then adding in its estimated MIR of up to 20-in-1 million from so-called "unmeasured fugitive and intermittent particulate" or "UFIP" sources.[11] As noted above, these are risk levels that EPA would later acknowledge in the final RTR to be overestimates of risk when compared to AISI's corrected data. As discussed below, there are several flaws in EPA's assumptions that lead to the conclusion of "less than 90 in 1 million risk," and, once corrected, the analysis demonstrates that risk has been substantially overestimated by EPA, resulting in a misleading conclusion of risk from the source category.

Calling this its "worst case" estimate, EPA noted that this level of risk was "still below the presumptive limit of 100-in-1 million risk," which is acceptable from a public health perspective.[12] EPA added that, in addition, its risk assessment had determined that there were "no facilities with an estimated maximum chronic noncancer [hazard index] greater than or equal to 1 from point sources."[13]

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[7] *See* 84 Fed. Reg. at 42,707.
[8] *Id.* (internal quotation marks omitted).
[9] *Id.*
[10] *Id.*
[11] *See* 85 Fed. Reg. at 42,083. In the July 2020 final rule, EPA identified these UFIP sources as being the same five UFIP sources for which, in the current rulemaking, EPA is proposing to set standards for the first time (i.e., BF bleeder valve unplanned openings, BF bleeder valve planned openings, BF bell leaks, BF slag handling and storage operations, and BF iron beaching), as well as BF casthouse fugitives and BOPF shop fugitives. The existing standards for the latter two that EPA now proposes to revise pursuant to CAA Section 112(d)(6). See Section III of these comments, *infra*.
[12] 85 Fed. Reg. at 42,083.
[13] *Id.*

In making this important determination, EPA acknowledged in its 2020 determination that new data submitted by AISI during the rulemaking suggest that the risk results significantly *overestimated* the actual risk posed by this source category.[14] In the final 2020 RTR, EPA also made clear it intention to rerun its model using the new data: "once we incorporate the new test data into our analysis and rerun our model, the risks will be lower":

> [T]he American Iron and Steel Institute (AISI) provided additional, more recent test data for the example facility that suggest arsenic emissions are lower than the level we had estimated based on the 2011 ICR data that we used in our analysis (*see* Paul Balserak, 2019, citation in footnote 18). Therefore, we conclude the emissions used in our risk assessment are conservative (upper-end) estimates. *This uncertainty also leads us to conclude that the risk results that include nonpoint sources are a qualitative indicator of the potential risk, rather than a true quantitative analysis, that may be higher than the actual risk due to assumptions about the level of emissions from nonpoint sources*. . . .
>
> In addition to supplying new test data, the AISI also conducted their own risk analysis for the same example facility using the same input data (*e.g.*, stack release parameters, fugitive source characteristics, latitude/longitude data for each emissions source, receptor information, etc.), the same model and following the same modeling analysis approach that the EPA used, except that AISI used the newer 2018 test data instead of the 2011 ICR test data that the EPA used. The new test data and AISI risk results are described in the February 2019 AISI document (*see* Paul Balserak, 2019), which is available in the docket for this action. *We did not have adequate time to complete an extensive review of the new test data, revise our model input files, and redo our risk analysis before proposal* . . .
>
> Nevertheless, we expect that once we incorporate the new test data into our analyses and rerun our risk model, *the risks will be lower than the risk estimates presented in Table 3 above. The results presented by AISI (which are presented in* [EPA's August 16, 2019 Federal Register] *Table 5)* [shown above] *indicate the MIR when the UFIP emissions are included could be about half the estimated value in the EPA's risk characterization presented above (i.e., 8- in-1 million compared to the EPA's estimate of 20-in-1 million) and that population risks also could be substantially lower than those presented above in this preamble*.[15]

[14] EPA's decision not to include the data may be explained by resource constraints and by the fact that EPA *was not* finalizing any of the work practice and opacity standards under consideration for UFIPs.
[15] 84 Fed. Reg. at 42,720-21 (emphasis added); *see* 85 Fed. Reg. at 42,086.

B. The proposal's risk modeling relies on improper methodologies and unrepresentative datasets, the correction of which will demononstrate risk levels significantly below the already acceptable risk level estimates and lead to a conclusion that the proposed standards are not warranted to protect public health.

EPA now proposes such standards along with other amendments to the II&S NESHAP—but remarkably still has not properly accounted for the test information that was submitted back during the 2020 RTR. Industry Commenters find it surprising that EPA was able to include the information from the 2022 ICR in its current analyses but has entirely failed to consider detailed information of central relevance to this rulemaking that it has had for over three years prior to the 2022 ICR. This omission is of particular concern given the Agency's decision to propose costly new regulatory requirements with insufficient supporting information that contradict its conclusions in 2020 of no technology developments under Section 112(d)(6). The failure to correct the emission factors with the updated test results for the Gary facility and to rerun the risk modeling, for example, while simultaneously purporting to analyze the necessity of revisions to the standard under Sections 112(d)(2)-(3) and (d)(6) is *not* an exercise of reasoned decisionmaking. EPA is not permitted under case precedents simply to ignore data that it has previously acknowledged to be valid and relevant.

As explained in greater detail below, EPA's failure to rerun its model using the data provided by AISI in 2019 as anticipated in the final RTR has allowed EPA to base its proposal on significantly inflated risk estimates. The inflated, uncorrected estimates also result in EPA greatly overstating the degree to which the proposed standards would lower risk, while at the same time overestimating the benefits those proposed standards would actually achieve. This flaw affects the validity of the entire proposal, including the bases for each of the proposed amendments.

To arrive at its conservative, upper-end assessed cancer risk of 90 in a million based on allowable emissions, EPA departed from its usual practice of modeling each facility's sources including fugitives in a source category for its risk assessment. For its risk assessment of the II&S source category, EPA paired point source and nonpoint source modeling from two different facilities instead of looking at the totality of modeled emissions at each facility. Specifically, EPA paired the 70 in a million modeled cancer risk MIR figure that was based on allowable emissions for *point sources* at the *Braddock/Edgar Thomson facility* (which had the highest risk due to point sources after modeling all facilities) with 20 in a million MIR risk based on allowable emissions from *nonpoint source* data *from the Gary facility*. With four blast furnaces, compared to one or two blast furnaces at other steel plants that average less than 50% of Gary's capacity, this would be expected to overestimate the risk that would be posed by other facilities' UFIP sources in the industry in terms of scale.

Given this size and capacity discrepancy with the rest of the industry, even accurately modeled risk for Gary would be expected to represent a significant overestimate of risks potentially posed by emissions from the other II&S facilities. Thus, EPA's misleading characterization of 90 in a million (which still shows acceptable risk) as the "worst case" estimate of risk falls short because this figure plainly overstates and is too high to represent any facility in this source category; rather, it is an "impossibly high case" estimate of risk for this source category. For instance, when looking

at the Gary facility alone, EPA's calculated MIR for nonpoint source *and* point source allowable emissions to be only 50 in 1 million[16] (and, when using corrected test data for the Gary facility, this figure would drop to 20 in a million[17]). EPA's MIR estimate of 50 in a million from the Gary facility based on allowable facility and UFIP emissions was further reduced down to 8.75 in a million when modeled with all of the corrected data submitted by AISI in 2019.

EPA's anodyne statement in the current proposal that, "[i]n the 2020 final rule, the Agency found that risks due to emissions of air toxics from this source category were acceptable"[18] violates EPA's fundamental principles of risk communication, which state clearly that EPA is supposed to "put a particular risk in context" and "compare risks appropriately" in any risk communication.[19] Thus, despite EPA's limited statements in the preamble, more detail is warranted to explain that, while "acceptable," EPA's ultimately misleading "90-in-1 million" estimate greatly overstates the actual risk posed by this source category because of the inherent conservativism of the risk models; because EPA deviated from its typical approach and paired data from point sources and nonpoint sources at different facilities; and because the agency has failed to consider relevant new corrected data. As briefly recounted below, prior to publication of the proposed rule, and again prior to promulgation of the final rule, AISI and U. S. Steel submitted data and other information to EPA that showed the numerous ways in which EPA was overestimating facility emissions—both for point sources and nonpoint sources—and, in turn, overstating the risks posed by the II&S source category. Corrected facility and UFIP data for the example facility shows risks of less than 2 in a million for actual emissions, as seen in Table 2 above.

1. EPA has failed to correct known emissions errors that result in overestimation of risk for *point* sources.

EPA's 70-in-1 million estimated MIR cancer risk based on allowable point source emissions significantly overstates risk from sources in the II&S source category due to a number of significant methodological flaws. EPA based this risk figure on risk drivers it determined from its review of the Braddock/Edgar Thomson facility. As AISI and USS explained during the 2019-2020 proposed and final RTR process,[20] the Braddock/Edgar Thomson facility risk assessment is based on several mistakes and incorrect assumptions that inflate the point source risk estimates:

- Test reports for the BOPF primary baghouse showed extreme run-to-run variability, with one of the three test runs being approximately 350 times higher for arsenic emissions than the next highest run at the BOPF primary baghouse, and high contamination of the blank sample was identified, but no blank correction was done, inaccurately biasing the results. EPA's normal procedures would have called for rejecting these datapoints under that principle alone. Yet, this is what underlies EPA's risk analyses to this day.

[16] 85 Fed. Reg at 42,082, 42,083, Table 3.
[17] *See* 84 Fed. Reg. at 42,721.
[18] 88 Fed. Reg. at 49,408.
[19] EPA, *Risk Messaging Guidance*, https://www.epa.gov/risk/risk-messaging-guidance, last updated August 1, 2023.
[20] EPA Docket No. EPA-HQ-OAR-2002-0083-0801 and EPA Docket No. EPA-HQ-OAR-2002-0083-1059.

- EPA used an incorrect maximum steel production rate for the Edgar Thomson facility, which is 3,467,500 tons per year, based on its Title V operating permit, not 3,832,500 tons per year as EPA's record suggests.

- EPA scaled up the fraction of each metal HAP by the ratio of total PM actuals to the allowable PM under the existing Subpart FFFFF standards.[21] EPA's approach results in an inappropriate ratio that calculates unrealistically high emissions. In particular, for the Braddock/Edgar Thomson facility, EPA applied an elevated ratio of wet scrubber stack results of 8.59, multiplied by 0.246 tons per year of actual arsenic emissions, to calculate an allowable emission rate of 2.1 tons per year of arsenic for the BOPF primary baghouse and a ratio of approximately 75 for the BOPF secondary baghouse, resulting in 0.06 tons per year of arsenic, 0.14 tons per year of chromium (VI) and 1.58 tons per year of nickel.

- As detailed above, EPA's actual to allowable scale-up factors were up to 75 times the actual rates. Based on the maximum capacity of the source, applying a ratio of the maximum production rate (3,467,500 tpy) to the actual production rate (2,701,327 tpy), the scale-up factors would be 1.28. EPA's approach to calculating allowable emissions in the II&S source category proposed rule significantly overestimates risk, and EPA should revise the allowable emission rates by basing its scale-up from actual to allowable emissions on production rate, which was the methodology used for the Taconite Iron Ore Processing Source Category RTR.[22]

2. The proposal's risk modeling for the Gary example facility for nonpoint sources relies on improper methodologies.

During the comment period on the 2019 RTR proposal, AISI provided EPA with detailed information[23, 24, 25] to show that the modeling done by the agency with respect to the Gary "example" facility was flawed, resulting in an estimated level of risk that greatly overstated the actual case with regard to nonpoint sources. For the Gary facility, EPA modeled risk for UFIPs using inputs extrapolated from 2012 stack test results. Unfortunately, the BF casthouse baghouse test results that were used for the BF HAP emissions as well as to develop the HAP to PM ratios for UFIPs are not valid due to anomalies in the testing and processing of the test samples. Initially, EPA had appropriately flagged the data as suspect given that the arsenic results were not in line with data from other test runs completed at the Gary facility at the same time, nor with similar industry sources.[26] Reasoning that, at that time, other representative data from the example facility were not available, it proceeded to model risk using those data. The 2012 BF casthouse baghouse

[21] D. Jones, U.S. EPA & G. Raymond, RTI Int'l, Integrated Iron and Steel Risk and Technology Review: *Point Source Data Summary*, Docket ID No. EPA-HQ-OAR-2002-0083-0955, at 18 (May 1, 2019); *see also* Letter from John Wittenborn, AISI, to Dr. Donna Lee Jones, EPA, regarding *Integrated Iron and Steel – Data Review and Residual Risk Modeling* (Mar. 24, 2014).
[22] See Appendix 1 of EPA Docket No. EPA-HQ-OAR-2017-0664-0171.
[23] EPA Docket No. EPA-HQ-OAR-2002-0083-0801.
[24] EPA Docket No. EPA-HQ-OAR-2002-0083-0804.
[25] EPA Docket No. EPA-HQ-OAR-2002-0083-1059.
[26] Email from Donna Lee Jones to Peter Pagano, *re: representative emissions file for risk screening analysis*, (Dec. 15, 2014) EPA Docket No. EPA-HQ-OAR-2002-0083-0710.

test data constituted an "extreme outlier" when compared with the test results from other regulated sources in the category.

The original model runs present risk in a manner that is misleading to the public and inconsistent with core EPA policies.[27] As previously discussed by AISI[23, 24,25], the 2012 Gary facility BF data were associated with a failure to follow best practices for EPA's Test Method 29.[28] Under Method 29, sample results should be accompanied by a reagent blank and a filter blank to allow for blank corrections by the laboratory, e.g., to correct for contaminated reagents and filters. For the stack test conducted pursuant to EPA's ICR on June 11-12, 2012, the laboratory, Element One, Inc. of Wilmington, North Carolina, did not receive a reagent and filter blank from the stack tester, Environmental Quality Management, Inc., as required by Section 29.9 of the test method. Therefore, the sample results could not be blank-corrected for arsenic. There is high likelihood that the arsenic detections in the four samples constitute false positives due to arsenic-contaminated reagents and/or filters. Because the laboratory did not receive a reagent blank or filter blank from EQM as part of the Gary facility's Blast Furnace No. 14 casthouse baghouse sampling, there is no way to retroactively validate the extent of the corrections that were needed.

To further support a more accurate risk assessment and more reliably confirm facility emissions, the owner of the Gary facility took the additional step of conducting new testing by a certified stack testing company to determine the appropriate model inputs. On December 19, 2018, stack testing company Mostardi Platt completed testing at Gary's #14 blast furnace casthouse baghouse stack.[29] The stack testing company utilized the same methodology required for the ICR test conducted in 2012 as a part of this RTR rulemaking. Method 5 was used to conduct the test to measure PM, and Method 29 was used to conduct the test to measure metallic HAP. The original 2012 stack test result for arsenic of 34.86 micrograms/dscm decreased to 0.43 micrograms/dscm in the 2018 retest, and the 2012 arsenic level of 0.000154 pounds/ton decreased two orders of magnitude to 0.00000298 pounds/ton in the 2018 retest. The reported results for the 2012 stack test of the same source had an arsenic HAP/PM ratio of 0.0176, which was significantly greater than other facilities in the industry and is an extreme outlier. The 2018 stack test results, on the other hand, show an arsenic HAP/PM ratio at Gary two orders of magnitude lower, at 0.000286. The 2018 arsenic HAP/PM ratio is now similar to that of other facilities.[25] EPA has a duty to accurately present the data on which it is basing its decision. The risk modeled from UFIP emissions has been vastly overstated, and correcting it will improve the accuracy of the conservative risk estimates.

EPA's approach to calculating allowable emissions compounded these problems. EPA scaled up the fraction of each metal HAP by the ratio of total PM actuals to the allowable PM under the existing Subpart FFFFF standards. EPA's approach results in an inappropriate ratio that calculates unrealistically high emissions. EPA could more appropriately model allowable emissions by scaling the emissions levels from the production levels in the ICR data to the production levels of

[27] *See, e.g.*, EPA, *Strengthening Transparency in Regulatory Science; Proposed Rule,* 83 Fed. Reg. 18,768 (Apr. 30, 2018).
[28] *Risk Analysis Report* at 5, EPA-HQ-OAR-2002-0083-0801.
[29] The 2018 stack testing data and additional relevant analysis was submitted to EPA on February 4, 2019. Letter from Paul Balserak, Vice President, Env't, AISI to Chuck French, Sector Policies & Programs Div., OAQPS, EPA (Feb. 4, 2019), EPA-HQ-OAR-2002-0083-0804 (Attachment B).

the maximum production rate. Using this approach, for the Gary facility, the allowable emissions were recalculated based on the maximum (design) capacity of each source in comparison to the actual production rates submitted in the ICR. Despite risk still being acceptable, EPA's actual-to-allowable scale-up factors were as high as 70 times the actual rates (which grossly overstated the allowable emissions because the facilities could not produce 70 times more production than the production rates during the stack testing). Based on the maximum capacity of the source, the scale-up factors were revised as shown in Table II.3 and are all less than three (when using the recommended approach and keeping with scale-up multipliers used by EPA to estimate allowable emission in other RTRs).

Table II.3 – Revised Actual to Allowable Scale-Up Factors for the Gary Facility[25]

Source ID	Source Description	Actual Production (tpy)	Maximum Production (tpy)	Multiplier
CELM0020	No. 1 BOP CASBell/OB Lancing Stations Baghouse (SS3105)	1302821	1971000	1.513
CELM0025	No. 1 LMF Baghouse (NS3135)	1189073	1971000	1.658
CELM0027	No. 2 LMF Baghouse (NS3136) [5 stacks]	1225913	1971000	1.608
CELM0033	No. 3 LMF Baghouse (NS3137)	1314084	1971000	1.500
CEMT0015	No. 1 BOP Hot Metal Desulfurization Baghouse (SS3100)	1280467	2262270	1.767
CEOF0023 & CEOF0024	No. 1 BOP Gas Cleaner North & South (SS3103 & SS3104)	2610483	6570000	2.517
CEOF0030 & CEOF0031	No. 2 QBOP Gas Cleaner East & West (NS3125 & NS3126)	3260899	6570000	2.015
CEOF0032	No. 2 QBOP Secondary Emissions Control Baghouse (NS3124)	3260899	6570000	2.015
CESP0043 & CESP0044	Sinter Plant Windbox Baghouse No. 1 & No. 2 (IS3203 & IS3204)	1591611	3942000	2.477

3. EPA's emissions estimates for UFIP sources are flawed and must be corrected.

EPA has attempted to estimate current HAP emission rates for all seven categories of UFIPs and to estimate emission reductions that it projects would occur if the proposed opacity and work practice standards are achieved. As summarized below and discussed in further detail in Section IV of this document, EPA's emissions estimates are based in part on the use of incorrect emission factors which cause a significant overstatement of emissions from UFIPs, and therefore significantly overestimates risk from UFIPs. These include the following issues identified by Industry Commenters:

- EPA relied on the 2012 BF casthouse baghouse #14 stack test data for Gary Works to speciate PM to HAP for UFIPs across *all* facilities, despite the significant issues with that

stack test data and subsequent corrected retesting, identified above, which was provided to EPA in 2019.

- EPA used an unsupportable and inappropriate PM emission factor for bell leaks. In its May 1, 2019 memorandum,[30] EPA originally selected a factor of 0.012 lb PM/ton iron for bell leaks based on the AP-42 compilation of test data. Then, in this rulemaking, without technical substantiation, EPA decided to select an emissions factor of 0.325 lbs PM/ton of iron to calculate emissions from bell leaks, a sevenfold increase with no clear indication of the technical basis for this substantial increase.

- For slag handling, storage, and processing operations, EPA used incorrect and inappropriate HAP/PM ratios with no supporting documentation of their bases, with a total HAP/PM ratio of 3.4%. EPA does not substantiate why this factor was used, and, in fact, it contradicts the slag-specific total HAP/PM ratio of 0.42% for slag sources in its May 1, 2019 Memorandum. Emissions from slag pits will generate PM emissions that reflect slag, not steel or iron. EPA's use of the 3.4% emission factor causes a ten times overestimation of HAP emissions from slag.

- EPA did not remove the "double counting" of emissions for blast furnaces and BOFs when it estimated fugitive UFIP emissions. In estimating emissions for the Gary facility risk assessment modeling in its May 1, 2019 memorandum, EPA properly avoided double counting emissions by deducting stack emissions from the BF and BOF point sources in its UFIP emission factors. EPA makes no such adjustment in its emission estimates in its April 3, 2023 UFIP Memorandum.[31] Therefore, EPA has overstated PM and HAP emissions from the BF and BOF UFIPs, and this needs to be corrected.

4. Although EPA acknowledged gross overestimations of risk for *nonpoint* fugitive emission sources during the 2020 RTR, the current proposal impermissibly fails to correct known emissions estimation errors and to remodel with the full information in EPA's possession.[32]

EPA's AMOS 2020 finding included potential increases in risk estimated for the difficult-to-quantify so-called "unmeasured fugitive intermittent particulate" emissions from nonpoint sources located at facilities in the source category. As its baseline for *nonpoint sources*, EPA used "estimated potential HAP emission from seven nonpoint sources" located at the Gary facility,[33] and was seeking to "determine if the nonpoint sources could account for discrepancies in modeled versus monitored air concentrations" that EPA had previously discerned.[34] EPA explained that, "without quantifying UFIP emissions for each facility[,]" its UFIP estimates were "problematic."

[30] EPA Docket No. EPA-HQ-OAR-2002-0083-1407.
[31] EPA Docket No. EPA-HQ-OAR-2002-0083-1447.
[32] *See* 85 Fed. Reg. at 42,086.
[33] These seven "nonpoint sources" identified by EPA at the "example" Gary facility were the same five so-called UFIP sources at issue in the current rulemaking (i.e., BF bleeder valve unplanned openings, BF bleeder valve planned openings, BF bell leaks, BF slag handling and storage operations, and BF iron beaching), plus BF casthouse fugitives and BOPF shop fugitives.
[34] 85 Fed. Reg. at 42,086.

But, because ["o]btaining measurements of UFIP emissions via source testing to combine with the point source emissions was not possible due to the court-ordered deadline and, more importantly, because measurement of UFIP sources would be very difficult, if not impossible, for some sources[,]"[35] EPA selected U. S. Steel's Gary facility to serve as its "worst case" exemplar since, as EPA explained, it is "the largest facility in the source category based on production capacity," and it "had the highest estimated HAP emission from steel-making sources (*i.e.*, facility emissions not including sinter plant emissions)."[36]

Taking this nonpoint source data, EPA then performed a risk assessment specifically for the Gary "example facility," using what it described as "upper-end emissions estimates to evaluate the potential exposures and risks due to all the emissions" from the facility.[37] EPA understood that "[g]iven the uncertainties regarding nonpoint sources emissions," it was to be "expect[ed] that the risk results would over-predict the actual risks"[38]; however, the agency was "primarily" seeking "a *qualitative* understanding of the potential risks from nonpoint sources[.]"[39] What this example facility-specific risk assessment showed was that, when conservatively estimated emissions from nonpoint sources (i.e., UFIP sources) were included, the "estimated MIR for actual emissions increased from 2-in-1 million (for point sources alone) to about 20-in-1 million,"[40] and, for allowable emissions, the "MIR . . . for UFIP and point sources increased from about 30-in-1 million to about 50-in-1 million."[41] As noted above, once corrections are made to the emission inputs and assumptions, the estimated MIR for actual emissions is less than 2 in 1 million, *including* both point and nonpoint category sources. This is far less than the 20 in 1 million estimate concluded by EPA.

As EPA acknowledged in its 2019 RTR proposal, while it was in the process of developing its risk assessment, AISI had (1) "provided additional, more recent test data for the example facility that suggest arsenic emissions are lower than the level" that EPA had previously estimated "based on the 2011 ICR data" that EPA had used, and (2) "conducted their own risk analysis for the same example facility using the same input data . . ., the same model and following the same modeling analysis approach that the EPA had used," except that "AISI used the newer 2018 test data instead of the 2011 ICR test data the EPA had used."[42]

Having received and reviewed the new data, EPA conceded that the "emissions used in [its own] risk assessment are conservative (upper-end) estimates," and that the resulting "uncertainty" led EPA to "conclude that the risk results that include nonpoint sources are a qualitative indicator of the potential risk," rather than a "true quantitative analysis, that may be *higher* than the actual risk due to assumptions about the level of emissions from nonpoint sources."[43] As for AISI's and U.

[35] 85 Fed. Reg. at 42,083, 42,086.
[36] *Id.*
[37] *Id.*
[38] *Id.*
[39] 85 Fed. Reg. at 42,086; 84 Fed. Reg. at 42,719-20 (emphasis added).
[40] *Id.*at 42,720. EPA's risk analysis for the example facility further estimated that the "noncancer [hazard index] for actual emissions increased from 0.03 to 0.3" when estimated UFIP emissions were included. *Id.*
[41] *Id.* Further, in the case of allowable emissions, the "noncancer [hazard index] increased from 0.3 to 0.7." *Id.*
[42] *Id.* at 42,720-21.
[43] *Id.* at 42,720 (emphasis added).

S. Steel's risk assessment, which was undertaken using then-more recent and more accurate data, EPA acknowledged that, based on the submitted model results, the "MIR when UFIP emissions are included could be about *half* the estimated value in the . . . risk characterization" that was presented in the 2019 proposed rule, that being "8-in-1 million compared to the EPA's estimate of 20-in-1 million."[44]

At that time, EPA did nothing further with the new, validated test result data and the risk assessment performed using EPA's own procedures but with the new data,[45] avowing that it "did not have adequate time to complete an extensive review of the new test data, revise [its] model input files, and redo [its] risk analysis before proposal."[46] "Therefore," EPA continued, "we have not yet evaluated the full extent of how the new data will affect the overall results of the example facility risk assessment."[47] Still, EPA represented, "we expect that once we incorporate the new test data into our analyses and rerun our risk model, the risks will be *lower* than the risk estimates" that EPA had developed using outdated 2012 stack test information.[48]

EPA did "not estimate the nonpoint emissions for any facilities other than the example facility in the source category"[49] at the time of the 2019 proposed rule and "[t]herefore, . . .did not estimate the risks due to nonpoint emissions from those facilities."[50] More specifically, EPA emphasized that "it is important to note that [EPA] did not estimate the nonpoint emissions for any facilities other than the example facility in the source category. . . . Because the fugitive emissions from UFIP sources were estimated from production-based emission factors, we made a reasonable assumption that the facility that produces the most product would be estimated to have the highest fugitive emissions; hence, the selection of the example facility to run the risk model for UFIP emissions because it has the highest production rate in the source category. . . . [A]ctual nonpoint emissions could be affected to some unknown extent by the quality of equipment and operational practices at each facility."[51] Still, as EPA observed, it had made a "reasonable assumption that the facility that produces the most product would be estimated to have highest fugitive emissions," with that facility being the Gary facility.[52] Industry Commenters agree that with four blast furnaces, compared to one or two blast furnaces at other steel plants that average less than 50% of

[44] *Id.* at 42,721.
[45] As noted in the AISI and USS 2019 comments, the new data was obtained utilizing proper test procedures, whereas the test results that EPA relied upon were defective.
[46] 85 Fed. Reg. at 42,721.
[47] *Id.*
[48] *Id.* (emphasis added.)
[49] *Id.*
[50] *Id.*
[51] *Id.* at 42,721.
[52] *Id.* EPA's docket memorandum also explained that the Gary facility was selected because it is "one of the largest in terms of production capacity of the eleven facilities in the II&S industry with four Blast Furnaces, two BOPF, and two Sinter Plants. In addition, the Example II&S Facility has blast furnace stoves for each blast furnace, desulfurization processes for the iron produced, and ladling operations for steel, [and] … is one of only three II&S facilities that have sinter plant operations." Memorandum from D.L. Jones to II&S RTR Project File, *Development of Emissions Estimates for Fugitive or Intermittent HAP Emission Sources for an Example II&S Facility for Input to the RTR Risk Assessment*, EPA-HQ-OAR-2002-0083-0956 (May 1, 2019).

the Gary facility's capacity, modeling the Gary facility would be expected to overestimate the risk that would be posed by other facilities in the industry in terms of scale.

In sum, AISI's and U. S. Steel's comments on the 2019 proposed rule underscored that, if EPA was to make a truly accurate risk assessment, it needed to redo its analysis to take account of the better emissions data it then had in hand. In the August 2019 proposal, EPA had all but promised that it would be doing so—i.e., ". . . we expect that once we incorporate the new test data into our analyses and rerun our risk model the risks will be lower than the risk estimates presented . . ."[53] For instance, EPA explained that "[t]he results presented by AISI (which are presented in Table 5) indicate the MIR when the UFIP emissions are included could be about half the estimated value in the EPA's risk characterization . . ." —but, due to alleged time pressures, EPA failed to do so before taking final action on its proposal. "[W]e did not rerun the risk model after proposal," EPA explained in the final rule, "because of the court-ordered schedule to complete the final rule."[54] Also, EPA suggested, rerunning the risk model using AISI's more accurate inputs was not important, since doing so "would not affect the outcome of the final rule."[55] "Based on consideration of comments and information received through the comment period," EPA concluded, "we continue to conclude risks are acceptable and that the NESHAP provides an ample margin of safety to protect public health."[56]

While EPA's decision not to develop more accurate emissions and risk estimates in the course of finalizing the RTR in July 2020 may have made limited sense at that time, given EPA's acknowledgement based on the AISI data that the true risks would likely be lower than EPA's estimates, it has nevertheless now produced a serious problem with respect to the current proposal. Having started with an overinflated sense of the emissions and the risk posed by the II&S source category, the current proposal also overinflates the benefits that are projected to accrue from both the new and the revised standards being contemplated. The throwaway statement in the preamble fails entirely to put the risk into context, as EPA states it is appropriate pursuant to its own guidance. Set forth below is even more information that serves to illustrate why the assumptions regarding the risk profile of the II&S source category that underpin the current proposal must be revisited if any final actions it may take with respect to the standards it is proposing to adopt are to reflect reasoned decision making on EPA's part.

C. Information since the 2020 RTR validates the low-risk determination for this source category.

In its 2020 RTR final rule, EPA identified arsenic and chromium as the HAP metals driving the highest risk, with lead having "*relatively* high emissions estimates" in this low risk source category.[57] Even where EPA references estimated potential increases in emissions in the preamble to the proposed 2023 amendments (which Industry Commenters dispute as overestimations) —

[53] *Id.*
[54] 85 Fed. Reg. at 42,084. Left unexplained by EPA was why, then, in the August 2019 proposal, it had indicated that it *would* be rerunning the risk model prior to promulgation, since the agency was just as aware of the court-ordered deadline for finalization when it first made that representation in the proposed rule.
[55] *Id.*
[56] *Id.* at 42,084-085.
[57] 88 Fed. Reg. at 49,414 (emphasis added).

lead concentrations remain sufficiently below the lead primary health-based National Ambient Air Quality Standards (NAAQS).[58] As detailed in the following sections, although EPA claims that monitored concentrations of arsenic, chromium, and lead are far greater than modeled concentrations (and therefore EPA incorrectly concludes that emissions were underestimated in the risk modeling for the 2019-2020 RTR rulemaking), Industry Commenters cannot replicate EPA's purported monitor-to-modeling ratios. Instead, the data shows that there is significant agreement between the monitored concentrations and the modeled concentrations, further validating the conclusion of low risks from the source category.

1. Lead concentrations monitored during the 2022 ICR are lower than EPA's 2019-2020 modeled concentrations.

The 2022 ICR data included a six-month monitoring program. EPA purports that monitored fenceline concentrations may show an increase above previous emission estimates. As EPA explains:

> For lead, the highest measured 6-month average fenceline concentration (from the 2022–2023 CAA section 114 request sampling) is 3 times greater than the highest modeled concentration for the example facility (US Steel Gary) evaluated in the 2019 RTR proposed rule (84 FR 42704, August 16, 2019) and the 2020 RTR final rule (85 FR 42074, July 13, 2020). . . . *For all locations at all facilities, the averages were well below the NAAQS level, with the highest average only 20 percent of the NAAQS, indicating that lead concentrations are [still] below levels of concern at the fenceline for this source category*."[59]

Importantly, as shown in Table II.4 below, Industry Commenters have reviewed monitored data for lead and cannot replicate EPA's purported calculation of a ratio that would show any such increased values for lead. Specifically, Industry Commenters reviewed the monitored concentrations from the Gary North and Gary South monitors for the fenceline monitoring program and compared them to modeled concentrations corresponding to each of the 30 monitor sampling periods. The modeling was conducted using production data and meteorological data[60] for each of the 30 monitor sampling periods to representatively match up the modeled concentrations with the monitored concentrations. The highest monitor-to-model ratio for lead is less than half the ratio cited in the proposed rule.

EPA's modeling for the 2019-2020 proposed and final rule was conducted using meteorological data from 2016 and actual emissions data from the throughput and stack test data (collected as part of the 2011 ICR) in 2011-2012. More problematic, however, is the use of meteorological data that does not coincide with monitoring period. Meteorological conditions can vary from year to year and season to season. Industry Commenters conducted modeling using AERMOD and the

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[58] *See* 84 Fed. Reg. at 42,709.
[59] 88 Fed. Reg. at 49,414 (emphasis added).
[60] Pre-processed 2022 meteorological data for the Gary IITRI meteorological station was obtained from the Indiana Department of Environmental Management's website: https://www.in.gov/idem/airquality/modeling/air-dispersion-meteorological-data/.

methodology described above to use representative emissions and meteorological data[61] for the dates of the sampling program. Receptors were placed at the locations of the Gary North and Gary South monitors to estimate modeled concentrations and compare them to the monitored concentrations. The thirty samples collected at each monitor were averaged over the six-month period.[62] The modeling files which used daily production data to estimate emissions for each monitor sampling period are available in Appendix M. The results of the analysis (summarized in Table II.4) show that the modeled concentrations corresponding to the six-month period of monitoring are *about the same* as the monitored concentrations for lead during the same period.

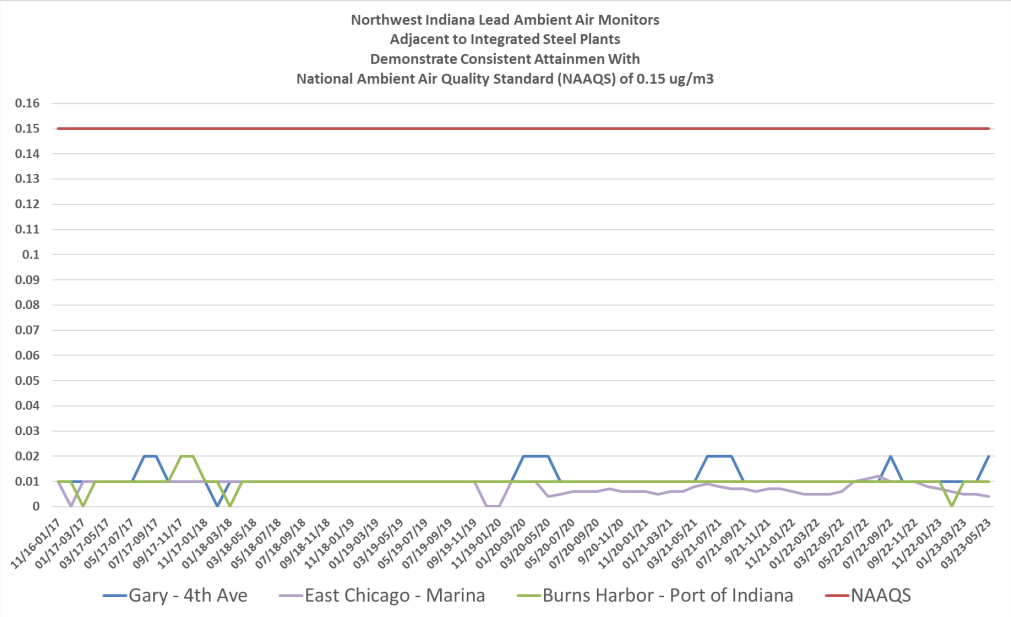
Table II.4 – Comparison of Monitored Lead Concentrations with Modeled Actual Lead Emissions at the Gary Facility

	Gary North Monitor	Gary South Monitor
Average monitored concentration of lead (µg/m^3)	3.03E-02	1.98E-02
Average modeled concentration of lead (µg/m^3)	3.22E-02	1.53E-02
Monitor to model ratio	0.9	1.3

Given these new findings and EPA's decision to rely on meteorological data that does not coincide with the monitoring period, EPA should review its calculation and available data and revise its findings accordingly. Moreover, 2017-2023 lead levels from state monitors are consistently an order of magnitude less than (or less than 10% of) the lead NAAQS 0.15 ug/m^3, as shown, for example, in Table II.5 for the Northwest Indiana Lead Ambient Air Monitors (see Appendix X).[63] These lead values also show no appreciable change after the temporary idling, confirming the II&S sources have no appreciable impact on lead in the ambient air.

[61] https://www.in.gov/idem/airquality/modeling/air-dispersion-meteorological-data/.
[62] The delta-c methodology was not incorporated because it should not be factored into a model-to-monitor comparison.
[63] *Indiana Lead ambient air monitoring data 2017-May 2023.*

Figure II.1 – Northwest Indiana Lead Ambient Air Monitors Adjacent to Integrated Steel Plants Demonstrate Consistent Attainment with National Ambient Air Quality Standard (NAAQS) of 0.15 ug/m^3[64]



Furthermore, EPA's method of comparing the modeling results conducted for the 2019 RTR proposed rule (84 Fed. Reg. 42704) and the 2020 RTR final rule (85 Fed. Reg. 42074) to the 2022 fenceline monitoring data results in the EPA analysis does not constitute a true model-to-monitor comparison. A true model-to-monitor comparison should be conducted using actual emissions and meteorological data from the same time period[65] as the fenceline monitoring program in 2022 for this source category (i.e., May through November 2022). But this is not what EPA has done. EPA conflated incongruous data points, and, once corrected, data shows that modeled concentrations at the receptors are similar to the monitored concentrations for lead.

2. Arsenic concentrations monitored during the 2022 ICR are lower than EPA's 2019-2020 modeled concentrations.

EPA also posits that, "[f]or arsenic, . . . [c]ompared to the 2019–2020 modeled results, the highest measured fenceline concentration for arsenic is 6 times higher than the highest modeled concentration at the same example facility."[66] Industry Commenters have reviewed the monitored and EPA modeled concentrations for arsenic and cannot replicate EPA's purported ratio calculation that would show any such increased values for arsenic.[67] Using the same methodology

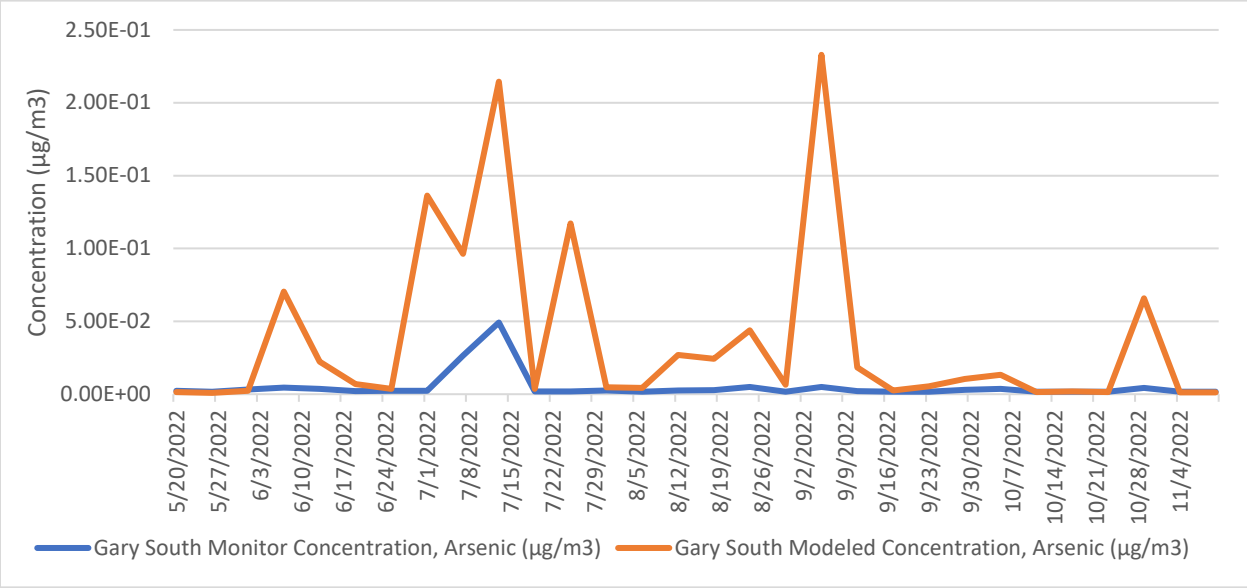
[64] The Indiana Department of Environmental Management intentionally has placed lead monitors adjacent to steel facilities at Gary, Indiana Harbor (East Chicago Marina) and Burns Harbor.
[65] Paine et al., Evaluation of low wind modeling approaches for two tall-stack databases, Journal of Air and Waste Management, October 2015, https://www.tandfonline.com/doi/pdf/10.1080/10962247.2015.1085924.
[66] 88 Fed. Reg. at 49,414.
[67] In their review, Industry Commenters compared the concentrations at the polar grid receptors closest to the Gary North and South monitor locations as shown in Table II.4.

described above for lead, Industry Commenters compared the modeled concentrations estimated from production rates and meteorological data corresponding to each of the monitor sampling periods for receptors placed at the same locations as the Gary North and Gary South monitors. The comparison between the monitored and modeled concentrations for each monitor sampling period are shown in Figure II.2, and the six-month average comparison of concentrations at each monitor location for arsenic are summarized in Table II.6. The resulting monitor-to-model ratio is less than one-third of the ratio cited by EPA in the proposed rule and, in fact, demonstrates that monitored concentrations were *lower* than what was modeled. This further indicates that the arsenic emissions estimated using the 2012 test for the Gary BF #14, discussed above, is flawed and should be corrected because it results in a substantial overestimation of arsenic emissions and therefore risk. EPA should provide the basis for its statement in the docket, review its calculation and available data, and revise its findings accordingly. In addition, arsenic data from the EPA AirData Air Quality Monitors demonstrate the very low ambient concentrations which are consistently well below EPA's risk level of 0.0043 µg/m^3.[68]

Table II.6 – Comparison of Monitored Arsenic Concentrations with Modeled Actual Arsenic Emissions at the Gary Facility

	Gary North Monitor	Gary South Monitor
Average monitored concentration of arsenic (µg/m^3)	1.26E-02	4.92E-03
Average modeled concentration of arsenic (µg/m^3)	8.82E-02	3.81E-02
Monitor to model ratio	0.14	0.13

Figure II.2 – Comparison of Monitored Arsenic Concentrations with Modeled Actual Arsenic Emissions at the Gary South Monitor



[68] *See* "EPA Cleve Middle E Chi Dearborn Lead As 2017 2023 - TRINITY -FINAL" and "Granite City and Detroit Lead and Arsenic TRINITY -FINAL."

The reported arsenic concentration measured from May 2022 to November 2022 at the Gary South monitor, located closest to the MIR, does not show public health risks for this source category above acceptable limits, with overall risk remaining low. The six-month average arsenic concentration at the South monitor is based on a limited data set of 30 samples, 31 percent of which were non-detect, which EPA collected as part of the 2022 ICR, and the Industry Commenters calculate that the six-month average monitored arsenic concentration of 0.005 μg/m³ at the Gary South monitor equates to acceptable cancer risk.

3. Chromium concentrations monitored during the 2022 ICR are lower than EPA's 2019-2020 modeled concentrations.

EPA also purports that average "[c]hromium concentrations measured at the fencelines of the four facilities ranged from 0.001 to *0.175 ug/m3*. Compared to the 2019-2020 modeled results, the highest measured fenceline concentration of Cr is 28 times higher than the highest modeled Cr concentration at the same example facility."[69] Industry Commenters, however, have reviewed monitoring data and, again, are not able to locate the highest average chromium monitor value of "0.175 μg/m³" which EPA cites in the preamble. Industry Commenters modeled concentrations representative for each of the 30 monitor sampling periods using the same methodology described above for lead. When the modeled concentrations from receptors located at the Gary North and Gary South monitors for the fenceline monitoring program were compared to the six-month average monitored value at each monitor location for chromium (as summarized in Table II.7), the resulting monitor-to-model ratio of 3.2 is far less than the ratio cited in the proposed rule. EPA should provide the basis for this significant conclusory statement regarding monitored chromium values in the docket. Industry Commenters cannot replicate EPA's finding of such a high increase in comparison to modeling. EPA should review its calculation along with available data and revise its findings accordingly.

Table II.7 –Comparison of Monitored Chromium Concentrations with Modeled Actual Chromium Emissions at the Gary Facility

	Gary North Monitor	Gary South Monitor
Average monitored concentration of chromium (μg/m^3)	1.55E-01	3.39E-02
Average modeled concentration of chromium (μg/m^3)	4.76E-02	2.15E-02
Monitor to model ratio	3.2	1.6

The highest six-month average based on Industry Commenter's review is 0.155 μg/m³ at Gary Works, which is in line with the six-month delta-c concentration of 0.154 μg/m³ (0.155-0.001 μg/m³).[70] As shown in Table II.7, when concurrent meteorological data is used, the modeled concentration at the receptor located at the Gary North monitor is approximately 3 times lower than the monitored concentrations for total chromium at the Gary North monitor and less than 2

[69] 88 Fed. Reg. at 49,414.
[70] *See* 88 Fed. Reg. at 49,41.

times lower at the Gary South monitor during the same period, which is far less than the 28 times ratio that EPA purported.

Part of EPA's overestimates of chromium results from EPA's oversimplification of actual iron and steel processes and incorrect presumptions related to emissions that have driven the inaccurately high emissions estimates which underlie EPA's risk assessment for the source category, such as:

- Assigning all slag handling and storage emissions to the slag pits—which is not represenative of all slag-related emissions, as hot and buoyant sources would disperse differently than emissions from storage piles and alter risk estimates.

- Contributing sources not being attributed emissions in EPA's modeling, such as roads located within 150 feet of the Gary North monitor, and non-slag material handling and storage piles located within 1,000 feet of the Gary North monitor.

4. The ratio of hexavalent chromium to total chromium utilized in the proposal needs to be revised to reflect real world hexavalent chromium data.

EPA's assumption that the hexavalent chromium (Cr^{6+}) portion of total chromium (Cr) is between 1 to 18 percent greatly overstates the hexavalent portion of total chromium emissions, as demonstrated by the following information.

As discussed in previous submittals to EPA, the Dearborn monitor (Site ID 26-163-0033), located within 250 meters of the fenceline of the Dearborn Works II&S facility in Dearborn, Michigan, has historical measurements of both hexavalent and total chromium ambient measurements. This monitor was installed as part of the Detroit Air Toxics Initiative (DATI) project conducted by the Michigan Department of Environmental Quality (DEQ) (now known as the Department of Environment, Great Lakes, and Energy (EGLE)), and monitoring was discontinued in 2013. According to data provided in the DATI report[71] and data obtained from EPA's AirData air toxics database,[72] data from 2007 (post-implementation of the II&S NESHAP) to 2012 (the last full year of measurements) shows that the average hexavalent-to-total chromium ratio is 0.81 percent.

The ratios from the Dearborn ambient monitoring data align with the sampling that was conducted for cooled/solidified slag. Testing conducted in 2019 on BF and BOF slag using analysis Method 3060A/7199 showed very low hexavalent to total chromium ratios of 1.06% and 0.58%, respectively. The slag testing results support very low hexavalent chromium to total chromium ratios even though the test method used, Method 3060A/7199, yields higher hexavalent-to-total chromium results than other available non-destructive test methods. The test resulted in hexavalent chromium below the detection limit of 2 mg/kg, resulting in a ratio of less than 0.07

[71] *See, e.g.*, Michigan Department of Natural Resources, *Detroit Air Toxics Initiative: Risk Assessment Update*, at, ES-11 (Dec. 22, 2010), https://tinyurl.com/599pp3fz.
[72] EPA, *Pre-Generated Data Files*, https://aqs.epa.gov/aqsweb/airdata/download_files.html.

percent hexavalent chromium to total chromium. Detailed information on the testing methodology and result were provided in Appendix B of the January 19, 2023 Industry submittal to EPA.

In addition, concurrent actual chromium and hexavalent chromium testing was conducted at the Gary Works facility on fourteen different materials, two unpaved roads, and one paved road. All testing, with the exception of limestone (which tested at approximately 1 part per million total chromium), demonstrated very low ratios less than 2 percent. The roadways, which are expected to contribute to the total chromium concentrations at the Gary fenceline monitors, show ratios of between 0.09 and 0.18 percent.

EPA should revise the hexavalent-to-total chromium ratio assumption used to estimate health risks to reflect concurrent, real-world measurements which demonstrate much lower ratios than the upper bound 18 percent used by EPA. In particular, the Dearborn ambient monitor data demonstrates that a hexavalent-to-total chromium ratio of 0.81 percent would be an appropriate ratio for risk assessments.

5. The use of total suspended particluates (TSP) in the proposal for inhalation risk needs to be revised to be modeled based on the PM_{10} fraction.

EPA has modeled arsenic and chromium emissions, which are the main drivers of risk in this industry according to EPA, using total suspended particulates (TSP). This approach is not appropriate to model *inhalation* risk because larger particles are not inhaled. Rather, the size range should be limited to PM_{10}, i.e., the inhalable portion. (The $PM_{2.5}$ portion of PM_{10} represents the respirable portion with the greatest impact from a public health risk perspective. Therefore, even when more appropriately analyzing PM_{10}, the relevant fraction is overestimated). EPA has recommended PM_{10} as the most appropriate fraction for evaluating exposure to toxic metals,[73] recognizing that "[w]ith the exception of lead (for which the [National Ambient Air Quality Standards ("NAAQS")] was developed with explicit recognition of non-inhalation exposure pathways), metals screening levels are more suited for use with the concentration of metal in particles captured in a PM_{10} sample."[74] Other agencies have also recognized that PM_{10} is the appropriate size to measure particulate inhalation risk. The Pennsylvania Department of Health, for example, explained that "[m]etal concentrations of PM_{10} are more reliable for health-based screening because they better represent inhalable particles into the lungs."[75] This is because PM_{10} is a more appropriate and accepted measure for modeling inhalation risks as the inhalable portion of particulate emissions. The use of TSP concentrations is therefore unjustified for the inhalation risk assessment.

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[73] EPA, *Quality Assurance Guidance Document - Model Quality Assurance Project Plan For the National Air Toxics Trends Stations,* EPA 454/R-02-007, (Dec. 2002).
[74] EPA, *Schools Air Toxics Monitoring Activity (2009) – Uses of Health Effects Information in Evaluating Sample Results*, at 6-7, Table 1 n.2 (Sept. 10, 2009), https://tinyurl.com/4jp7a7rb.
[75] Pennsylvania DOH, *Evaluation of Ambient Air Monitoring Data in Glasgow Borough, Beaver County, Pennsylvania* at 4 (Aug. 25, 2016), https://tinyurl.com/mup98sff.

EPA has still not attempted to justify this approach in its current proposal for amendment. Rerunning the inhalation risk model as recommended above reflects residual risk significantly lower than the proposal's already low, acceptable risk.

6. EPA has significantly overestimated the $PM_{2.5}$ benefits by using incorrect $PM_{2.5}$-to-PM ratios.

As detailed in Sections IV and V, EPA has applied incorrect $PM_{2.5}$-to-PM ratios for most of the UFIP source categories. When corrected, instead of EPA's purported 563 tpy of $PM_{2.5}$ reductions, only an estimated 99 tpy of $PM_{2.5}$ would be expected to be reduced by its proposal.

As discussed further below, EPA's focus on $PM_{2.5}$ in this rulemaking is misguided, if not illegal given the statutory objective and express authority of Section 112 to control HAP emissions.

Furthermore, it is important to note that EPA's NAAQS for $PM_{2.5}$ at 12 $\mu g/m^3$ is one of the most stringent in the world when compared to national standards in China, India, and Europe. And still, EPA's long-term trend ambient air data shows acceptable levels of $PM_{2.5}$ around II&S facilities that have already been greatly reduced. $PM_{2.5}$ ambient air data compiled by EPA has documented that $PM_{2.5}$ concentrations from monitors located near II&S facilities have been reduced 39 percent based on the most current 2020-2022 published design data in comparison to 2005-2007 levels. These most current $PM_{2.5}$ concentrations are all less than the stringent NAAQS average of 10.5 $\mu g/m^3$.[76]

D. EPA significantly underestimates compliance and economic costs to industry and consumers and fails to compare those costs with the diminished incremental benefits of its proposed controls.

As illustrated in Table II.2 above, the estimated reduction in inhalation-based cancer risk from implementation of the proposed rule, once the appropriate corrections and site-specific data discussed above have been accounted for, is approximately 0.1 in a million, a *de minimis* reduction in risk, especially when compared to the disproportionately high cost of implementing the proposed amendments to the II&S NESHAP. As discussed in detail in these comments, EPA's proposal includes five new opacity standards, over 25 work practice proposals for seven EPA-identified nonpoint sources of emissions (*see* Sections IV, V, and VI), multiple numerical limits for HAPs (*see* Section VII), and fenceline monitoring requirements (*see* Section VIII).

[76] EPA, Air Trends, Air Quality Design Values, https://www.epa.gov/air-trends/air-quality-design-values#report.

Table 4-1. Comparison of Capital Costs, Annual Operating Costs and Overall Annual Costs Between EPA and Industry Case by UFIP Category (values rounded)

All Mills	EPA Base Case[a]				Industry Costs[b]			
	Equipment Costs$		Annual Operating	Overall Annual Costs	Equipment Costs$		Annual Operating	Overall Annual Costs
	Capital	Annualized			Capital	Annualized		
BF Casthouse Fugitives	$765k	$677k	$63k	$740k	$217M	$20M	$23M	$44M
BOF Shop Fugitives	$495k	$438k	$59k	$497k	$1.2B	$112M	$92M	$204M
Existing MACT Sources	*$1.3M*	*$1.1M*	*$122k*	*$1.3M*	*$1.4B*	*$133M*	*$115M*	*$248M*
BF Unplanned Openings	$1.5M	$197k	$42k	$240k	$50M	$4.7M	$200k	$4.9M
BF Planned Openings	$0	$0	$55k	$55k	$0	$0	$55k	$55k
BF Bell Leaks	$2.1M	$922k	$12k	$934k	$26M	$26M	$240M	$266M
BF Iron Beaching	$0	$38k	$17k	$55k	$4.8M	$453k	$50k	$503k
Slag Handling & Storage	$563k	$117k	$191k	$308k	$177M	$17M	$2.0M	$19M
New UFIP Sources	*$4.2M*	*$1.3M*	*$317k*	*$1.6M*	*$258M*	*$48M*	*$242M*	*$290M*
All UFIP Sources	**$5.4M**	**$2.4M**	**$439k**	**$2.8M**	**$1.7B**	**$180M**	**$358M**	**$538M**

[a] Control costs for the Base Case are those developed in Document ID 1446.
[b] Industry control cost analyses are shown in the attachments to this memo.

Industry analysis shows that EPA has significantly underestimated the associated capital and operating costs needed to comply with these many new requirements. The differences are stark, reflecting EPA's deficiencies in understanding the complexity and cost implications of its proposed requirements. For instance, as shown in Table 4-1 from the analysis conducted by Trinity Consultants by UFIP categories (See Appendix), the capital costs for complying with the proposed amendments will approach $1.7 billion, not the inexplicably low $5.4 million estimated by EPA. Similarly, likely annual operating compliance costs are estimated at $358 million, far above the $439,000 estimated by EPA.

Implementation of EPA's proposed 15 HAP limits and fenceline monitoring program would be exorbitantly expensive with no associated emission reductions anticipated for the entire source category, and therefore no potential to reduce public health risks. EPA has estimated that implementation of its 15 proposed HAP limits would solely be the cost of compliance testing at $1.7 million once every 5 years ($320,000 per year) for all sources, whereas more accurate estimates are upwards of $3.2 billion total capital investment, $749 million in annualized costs for point sources.

As discussed further in Section VII, EPA's gross underestimation of costs reflects several deficiencies. Specifically, EPA has:

- Relied on insufficient data to calculate the proposed limits.
- Ignored characteristics of available data that show the data is not representative of potential emissions.
- Relied on inaccurate production data.
- Failed to account for known operational, process, seasonal, and measurement variability.
- Mishandled non-detect values in its calculation of proposed limits.
- Overlooked necessary compliance assurance measures.

As shown in Table 4-2, when compared to the relatively small number of tons reduced, the result is exceedingly high costs per ton estimates that underscore both the cost and ineffectiveness of the proposed amendments:

Table 4-2. Comparison of HAP Reduced, Overall Annual Costs and Cost-Effectiveness by UFIP Category

Cost Effectiveness Analyses	Base Case Emissions EPA Costs[a]			Industry Emissions Industry Costs[b]		
UFIP SOURCE	HAP Reduced (tpy)	Overall Annual Costs	$/ton HAP Reduced	HAP Reduced (tpy)	Overall Annual Costs	$/ton HAP Reduced
BF Casthouse Fugitives	14.37	$740k	$51k	0.19	$44M	$234M
BOF Shop Fugitives	25.92	$497k	$19k	2.63	$204M	$78M
Existing MACT Sources	*40.30*	*$1.3M*	*$31k*	*2.81*	*$248M*	*$88M*
BF Unplanned Openings	0.50	$240k	$479k	0.12	$4.9M	$40M
BF Planned Openings	0.41	$55k	$134k	0.08	$55k	$672k
BF Bell Leaks	30.71	$934k	$30k	0.05	$266M	$5.7B
BF Iron Beaching	0.00	$55k	$16M	0.00	$503k	$311M
Slag Handling & Storage	7.35	$308k	$42k	0.10	$19M	$182M
New UFIP Sources	*38.97*	*$1.6M*	*$41k*	*0.35*	*$290M*	*$819M*
Total UFIPs	**79.27**	**$2.8M**	**$36k/ton**	**3.17**	**$538M**	**$170M/ton**

[a] Control costs for the Base Case are those developed in Document ID 1446.
[b] Industry control cost analyses are shown in the attachments to this memo.

Despite the imposition of these significant and potentially disruptive costs to the steel industry, the proposed rule does not fully consider the economic impacts of these costs on industry or the broader market. In fact, the draft RIA acknowledges these glaring deficits, suggesting instead that a comparison of costs with the revenue of firms owning II&S facilities is an adequate consideration approach to considering costs: "[a]lthough facility-specific economic impacts (production changes or closures, for example) cannot be estimated by this analysis, the EPA conducted a screening analysis of compliance costs compared to the revenue of firms owning II&S facilities."[77]

This approach runs afoul of any appropriate weighing of the incremental benefits and costs of the proposed actions. First, by failing to assess the full impact of the proposed requirements on industry, including the impacts on production changes or closures as acknowledged by EPA, no decisionmaker in the government or stakeholder, including consumers, can assess the potential for broader economic harm or emission dis-benefits. As discussed elsewhere in these comments, lost US steel production and closure of US plants could stall the energy transition and the environmental benefits predicated on that transition. EPA's failure to conduct this analysis prevents any evaluation of these impacts.

Second, comparing a diminished, incomplete estimate of compliance costs against the revenues of the firms owning II&S plants would green-light any regulatory measures as long as the firms have sufficient revenues. The comparison does not provide insights as to whether the incremental benefits of regulation are worthy of the costs that society will incur.

[77] EPA RIA, at p. 5-1.

E. The proposed rule exceeds statutory authority.

1. EPA proposes a rule with no clear statutory-related HAP benefits.

EPA's own analysis demonstrates that its proposed standards would fail to achieve any meaningful reductions in HAP risk. The current risk reduction estimations EPA associates with its proposed opacity and work practices standards for what it has coined "unmeasured fugitive intermittent particles" (UFIPs) are based on an assumed particulate matter (PM)-to-HAP ratio that cannot be confirmed made from point source stack tests data. As EPA explains: "This proposal is projected to reduce 79 tons HAP per year. With the data available, it was not possible to estimate the change in emissions of each individual HAP."[78] When assessing the impact of the proposed rule, EPA purports that the rule will reduce HAP emissions by only 790 short tons over a ten-year period (2025-2034),[79] an amount EPA judged to be too small to model or to determine impacts to the most exposed individual or to generally exposed populations. Monetization of potential impacts were likewise too small to register.[80]

Section 112 is a statutory provision designed to achieve meaningful air toxics emissions reductions. The section references the pre-existing 1990 Benzene NESHAP to provide context to what is meaningful. A standard that reduces source category risks below 1 in 10,000 or 100 in one million is considered protective with an ample margin of safety.[81] As discussed above, EPA determined, based on conservative modeling and emission assumptions, that the source category satisfied this standard. EPA's failure to identify any additional meaningful HAP benefits in this proposed rule is not surprising, but it is problematic in principle.

Without discernable air toxics benefits that can be measured and quantified, the agency is proposing additional regulation under Section 112(d)(6) with no clear endpoints in time or stringency, recasting a narrow one-sentence statutory provision into a major regulatory authority to reshape industries over time, untethered to any clear statutory purpose. If unchallenged, EPA could use this minor regulatory updating provision to impose extensive requirements on a long list of previously regulated HAP stationary source categories. Clearly, Congress would not have intended such an outcome. A more sensible interpretation of this provision would end continued technology reviews under Section 112(d)(6) when the residual risks from the source category are determined by EPA to be protective with an ample margin of safety. At a minimum, EPA is required to weigh the incremental HAP-related benefits of further air toxics reductions against the incremental costs.

The CAA requires EPA to consider costs in setting emission standards under Section 112(d) and residual risk standards under Section 112(f). In setting "emission standards that the Administrator determines is *achievable* for new and existing sources" under Section 112(d), EPA is required to take "into consideration the cost of achieving such emission reduction." Similarly, in establishing residual risk standards under Section 112(f), the Act requires EPA to "promulgate standards for such category or subcategory if promulgation of such standards is required in order to provide an

[78] EPA RIA, at 4-1.
[79] *See* EPA RIA.
[80] *See id.*
[81] 85 Fed. Reg. 42,083.

ample margin of safety to protect public health in accordance with this section (as in effect before November 15, 1990)," noting that the 1990 amendments should not alter the Administration's interpretation of this section in effect prior to the 1990 amendments as reflected in EPA's November 15, 1990 Benzene NESHAP:

> 112(d)(2)(B) Nothing in subparagraph (A) or in any other provision of this section shall be construed as affecting, or applying to the Administrator's interpretation of this section, as in effect before November 15, 1990, and set forth in the Federal Register of September 14, 1989 (54 Federal Register 38044). CAA Section (d)(2)(B).[82]

In this regard, the second step of the two-step referenced decisionmaking process in the Benzene NESHAP requires consideration of cost:

> Implementation of these goals is by means of a two-step standard setting approach, with an analytical first step to determine an "acceptable risk" that considers all health information, including risk estimation uncertainty, and includes a presumptive limit on maximum individual lifetime risk (MIR) of approximately 1 in 10 thousand. A second step follows in which the actual standard is set at a level that provides "an ample margin of safety" in consideration of all health information, including the number of persons at risk levels higher than approximately 1 in 1 million, as well as other relevant factors including costs and economic impacts, technological feasibility, and other factors relevant.[83]

In this proposed rulemaking, EPA has failed to consider the incremental cost of further HAP emission reductions against the HAP-related benefits that would be achieved. Without consideration of incremental HAP benefits against incremental costs, EPA is interpreting this updating provision to allow EPA to impose requirements on industry that achieve no statutorily prescribed benefits.

2. The proposal to repurpose a narrow hazardous air pollutant provision to control criteria pollutants is legally impermissible.

At several points in the proposal, EPA states that the benefits it believes will be generated from this action are largely due to benefits from the reduction of $PM_{2.5}$, a criteria pollutant under Section 109, *not* from the HAPs that are the subject of Section 112. For example, EPA states:

> The proposed rule is significant under E.O. 12866 Section 3(f)(1), as amended by E.O. 14094 *due to the monetized benefits of fine particulate matter* ($PM_{2.5}$) reductions likely to result from the UFIP emissions standards included in the proposed rule.[84]

[82] Benzene NESHAP.
[83] Benzene NESHAP.
[84] 88 Fed. Reg. at 49,405.

> For the RIA, the EPA monetized benefits associated with premature mortality and morbidity from reduced exposure to $PM_{2.5}$.[85]
>
> Benefits from HAP reductions remain unmonetized and are thus not reflected in the table.[86]

We urge EPA to consider whether it would be better served by not pursuing approaches that reinterpret and expand existing regulatory authorities to achieve broader social and political goals, given recent judicial decisions and when there is a low-risk determination in place. Recent Supreme Court decisions striking down the student loan forgiveness program in *Biden v. Nebraska* as overstepping statutory authority under the Higher Education Relief Opportunities for Students Act of 2003, and of the sweeping definition of "waters of the US" under the Clean Water Act in *Sackett v. EPA*, illustrate the Court's watchfulness and growing intolerance of moving outside the straightforward authorizations that Congress has granted regulatory agencies.

In this proposal, the only monetized benefits, $1.7 billion to $2.3 billion, are based on reductions in $PM_{2.5}$ emissions. In its draft RIA, EPA further notes that "[it] did not monetize benefits of HAP reductions or non-health benefits of $PM/PM_{2.5}$ reductions, both of which are *expected* to be positive." The uncertainty surrounding EPA's claim of health benefits from HAP reductions is noteworthy. Without exposure model support, there is no assurance that the 79 short tons of HAPs reduced per year will affect population exposure or risk in any perceptible or meaningful way. Thus, instead of being able to justify its proposed rule with evidence of reduced HAP exposures, EPA proposes an expansive set of controls whose main benefit and objective is to reduce $PM_{2.5}$, a criteria pollutant that is not regulated under Section 112.

It is improper for EPA to justify a Section 112 regulation based on benefits that it projects to occur as a result of emission reductions of criteria pollutants, which are already independently regulated and for which regulation is authorized under separate provisions of the Act. Although the Supreme Court has not had the opportunity to address this issue directly (yet), Chief Justice Roberts questioned the government at oral argument in the case challenging the Mercury and Air Toxics (MATS) Rule for electric utilities. There, as here, EPA's rule imposed dramatic costs ($90 billion per year across numerous sources, whereas here the extreme costs will be borne by only 11 facilities). EPA relied on an estimated avoidance of 11,000 premature deaths annually, almost entirely from $PM_{2.5}$ emission reductions—not mercury reductions.

At oral argument, Chief Justice Roberts commented that EPA was using its authority under Section 112 "to get at the criteria pollutants [including $PM_{2.5}$] that you otherwise would have to go through a much more difficult process to regulate." The Chief Justice questioned whether EPA "ought to consider only the benefits of regulating that" targeted pollutant, rather than "bootstrapp[ing]" a "disproportionate amount of benefit that would normally be addressed under" a separate statutory authority.

[85] 88 Fed. Reg. at 49,405.
[86] 88 Fed. Reg. at 49,406, Table 1, n.b.

In this exchange, the Chief Justice draws attention to two potentially illegal actions by EPA: (1) an attempt to regulate criteria pollutants under Section 112, a hazardous air pollutant provision; and (2) an attempt to evade the CAA criteria pollutant statutory authorities and guardrails in reducing criteria pollutant emissions. This line of questioning should give EPA pause. EPA cannot rely on $PM_{2.5}$ benefits to give meaning to a HAP rulemaking that lacks clear HAP-related benefits.

COMMENTS OF THE

AMERICAN IRON AND STEEL INSTITUTE

AND

UNITED STATES STEEL CORPORATION

National Emission Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing Facilities Technology Review; Proposed Rule

88 Fed. Reg. 49,402 (July 31, 2023)

Docket No. EPA-HQ-OAR-2002-0083

SUBMITTED SEPTEMBER 29, 2023

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VII. The 30 proposed new HAP limits for new and existing point sources should not be finalized because: (1) they either are not necessary to satisfy the *LEAN* decision or are not supported by the record or both, and (2) EPA has not provided a sufficient public comment period for the proposed standards.

EPA proposes a series of new emission limits on BF Stoves, BF Casthouses, BOPF primary emission control systems, and sinter/recycling plants. The preamble states that the statutory basis for all of these limits is Section 112(d)(2)-(3), as gap-filling, with the exception of D/F and PAHs limits for sinter/recycling plants, which would be imposed under Section 112(d)(6).[1] In total, EPA proposes an additional 15 existing source emission standards and 15 new source emission standards.

Source	Proposed Limit: Existing Sources	Proposed Limit: New Sources	EPA-Estimated Emissions:
BF Stoves (lb/ton of iron) ***Proposed basis: gap-filling Sec. 112(d)(2)-(3)***	THC: 0.1	THC: 0.0011	200 tpy
	HCl: 5.2×10^{-4}	HCl: 1.4×10^{-4}	4.5 tpy
	D/F: 3.8×10^{-10}	D/F: 3.8×10^{-10}	0.076 g/yr
BF Casthouse Control Device (lb/ton of iron) ***Proposed basis: gap-filling Sec. 112(d)(2)-(3)***	THC: 0.092	THC: 0.035	270 tpy
	HCl: 0.0013	HCl: 5.9×10^{-4}	1.4 tpy
BOPF Primary Control System (lb/ton of steel) ***Proposed basis: gap-filling Sec. 112(d)(2)-(3)***	THC: 0.04	THC: 0.0017	13 tpy
	D/F: 4.7×10^{-8}	D/F: 4.7×10^{-8}	3.6 g/yr
	HCl: 0.078	HCl: 1.9×10^{-4}	200 tpy
Sinter/Recycling Plants (lb/ton of sinter) ***Proposed basis: gap- filling Sec. 112(d)(2)-(3)***	Hg: 3.5×10^{-5}	Hg: 1.2×10^{-5}	55 lb/yr
	COS: 0.064	COS: 0.030	72 tpy
	CS_2: 0.028	CS_2: 0.028	23 tpy
	HCl: 0.025	HCl: 0.0012	12 tpy
	HF: 0.0011	HF: 0.00111	1.3 tpy
Sinter/Recycling Plants (lb/ton of sinter)	D/F: 3.5×10^{-8}	D/F: 3.1×10^{-9}	0.000008 tpy[2]
Proposed basis: Reconsideration Sec. 112(d)(6)	PAHs: 5.9×10^{-3}	PAHs: 1.5×10^{-3}	6 tpy[2]

To the extent the emission standards that EPA is proposing here for existing sources are derived from the calculated MACT "floor," where, notwithstanding the plain language of CAA Section 112(d)(2), the Agency has followed its longstanding practice of failing to take "into consideration the cost of achieving" the expected "emission reduction," those standards are unlawful for the reasons given in Section III.B. But, even assuming that EPA was authorized to set emission

[1] *See* 88 Fed. Reg. at 49,402.
[2] EPA did not provide this emissions estimate in its proposal; they are available in EPA's Summary of Integrated Iron and Steel Point Source Emissions Estimates for Risk and Technology Review, 6 at tbl. 5 (May 1, 2019), EPA-HQ-OAR-2002-0083-1458.

standards under CAA Section 112(d)(2) based on the calculated MACT floor and without accounting for costs, those standards are fatally flawed for the additional reasons provided below.

As AISI presented in corrected data to EPA, the estimated risk for *all of the point sources in this category combined* was *less than 1 in a million* in 2018. EPA has explained, for all of the 30 proposed limits above, it expects "no emissions reductions as a result of the emission limits."[3] Thus, EPA intends to cap emissions at current low-risk levels with these 30 proposed limits. Much of EPA's speciated numerical proposals are unnecessary as capping current emissions can be achieved if EPA were to finalize only a select few of its proposed new limits: (1) THC for BF casthouses; (2) THC for BF stoves; (3) HCl for BOPF primary control devices; and (4) HF and Hg for sinter/recycling plants. These limits alone would cover at least 96 percent (based on EPA's conservative presumptions) Hg, HCl, HF THC, HCl and D/F emissions which EPA proposes establishment of its point source limits would cover – and even some of these are not necessary as detailed below because, for instance, pollution control techniques would provide more certain control given technological feasibility issues. The remainder of EPA's proposed limits are unnecessary due to those same technologically feasibility issues, because surrogates exist to maintain EPA's intended cap on emissions, or because all other potential point source emissions of these HAPs make up extremely low emissions, if any.

EPA has explained that it expects "no control costs . . . as a result of the emission limits, except for compliance testing, recordkeeping, and reporting costs."[4] EPA does not explain why it believes that there will be no new costs for control, given that each proposed MACT limit is based on very few stack tests such that they cannot account for known raw material, operational, process, seasonal, and measurement variability and, therefore, cannot purport to be representative of best performers. EPA appropriately solicits comment on its conclusion that all facilities should be able to comply with these MACT floor limits with current controls and on whether there would be new control costs for facilities to comply with the proposed limits."[5]

Table 5 in Proposed Rule – EPA Summary of Compliance Dates For the Proposed Rule

TABLE 5—SUMMARY OF COMPLIANCE DATES FOR THE PROPOSED RULE

Source(s)	Rule requirement	Compliance date
All affected sinter plant windbox sources that commence construction or reconstruction on or before July 31, 2023.	Proposed new emissions limits for mercury, HCl, HF, CS_2, COS, D/F, and PAH.	6 months after the promulgation date of the final rule.
All affected sources that commence construction or reconstruction on or before July 31, 2023.	Proposed fenceline monitoring requirements ..	1 year after the promulgation of the fenceline method for metals or 2 years after the promulgation date of the final rule, whichever is later.
	Proposed opacity limits and work practices for the seven UFIP sources.	12 months after the promulgation date of the final rule.
All affected BF and BOPF sources that commence construction or reconstruction on or before July 31, 2023.	Proposed new emissions limits for HCl, THC, and D/F.	6 months after the promulgation date of the final rule.
All affected sources that commence construction or reconstruction after July 31, 2023.	All proposed new and revised provisions	Effective date of the final rule (or upon startup, whichever is later).

The proposed compliance dates for the new speciated numerical HAP limits are based on the unsupported assumption that no new controls will be needed for compliance. According to EPA's

[3] 88 Fed. Reg. at 49,416-17.
[4] *Id*.
[5] *Id.* at 49,416.

Table 5 in the Proposed Rule, existing affected sources would be required to comply with this range of limits within 6 months of promulgation, *i.e.*, by September 10, 2024, less than a year from now, assuming a March issuance date (which is currently pending before the court in the ENGO deadline suit).

A. The proposal violates CAA Section 307(d) because EPA has not provided at least 30 days to comment on the data, information, and documents on which it relied to calculate the proposed limits.

CAA Section 7607(d) specifies the procedural requirements that apply to rulemakings under Section 112, like this one. Under Section 307(d)(3), EPA is required to include in the notice of proposed rulemaking a summary of "the factual data on which the proposed rule is based" and "the methodology used in obtaining the data and in analyzing the data."[6] In addition, EPA must include in the docket – "all data, information, and documents . . . *on which the proposed rule relies*" no later than the date of the Federal Register notice, to ensure that the relevant information for comment is available to the public for the required 30-day comment period.[7]

EPA failed to include in the docket (or elsewhere) the data, information, and documents that showed the methodology for analyzing the test result data to determine the proposed emission limits. Specifically, after being requested by stakeholders who were unable to assess how EPA applied the upper prediction limit (UPL) approach from the materials in the docket, EPA placed the workbooks underlying its calculations for these thirty standards on its website on September 7, 2023. Yet, EPA is closing the comment period on September 29, 2023.

These critical Excel workbooks[8] contain the agency's methodologies, assumptions and other considerations underlying all of its proposed speciated numerical limits, including those established based on three times the representative detection limit (3xRDL). Such agency considerations and calculations, or aspects thereof, were impossible to discern from the limited information and data posted in the docket on July 31, 2023 (the date the proposal preamble was published in the Federal Register).[9] EPA finally posted these workbooks on its website[10] (and not in the docket) on September 7, 2023 – 37 days *after* the notice of proposed rulemaking was published. The workbooks were finally placed in the docket on September 12, 2023.[11] Thus, the

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[6] 42 U.S.C. at § 7607(d)(3)(A), (C).

[7] *Id.* at § 7607(d)(3) (emphasis added).

[8] EPA commonly provides this crucial information in dockets for other rulemakings, for example, in the Lime Manufacturing Plants NESHAP rulemaking, EPA provided Excel workbooks as an attachment to the following docket entry: https://www.regulations.gov/document/EPA-HQ-OAR-2017-0015-0134.

[9] EPA used test results from one sinter/recycling plant strand in the floor pool twice (once for the tested unit and another as time for an untested unit at the same facility) in the development of its proposed limits; however, absent the now-received UPL workbooks for sinter/recycling plants, Industry Commenters would not (and did not) know to input data from one unit for another in its attempt to recreate and verify EPA's UPL values.

[10] *See* EPA, *Integrated Iron and Steel Manufacturing: National Emission Standards for Hazardous Air Pollutant*, https://www.epa.gov/stationary-sources-air-pollution/integrated-iron-and-steel-manufacturing-national-emission (last visited Sept. 27, 2023).

[11] *See* EPA, *Cover Letter for UPL Calculations* (posted on Sept. 12, 2023), EPA-HQ-OAR-2002-0083-1504 ("EPA UPL Workbooks") (providing EPA's UPL calculation workbooks in eleven attachments).

comment period should have closed no earlier than October 11, 2023.[12] To date, EPA also has not included in the docket (or elsewhere) explanations for (1) its use of skewed UPL templates and (2) what appears to be deviation from its policy by selecting a MACT floor at 3xRDL when its policy is based on selecting the higher of the UPL calculation or "converted 3xRDL". Thus, the public comment period should remain open at least 30 days after publication of this information.

This failure to provide the workbooks and explanations is significant. These workbooks, for instance, reveal *how* EPA analyzed the hundreds of stack test data points, and thousands of other relevant details (such as the 17 individual chemical compound emission rates for a single Total PAH datapoint, and the 17 individual dioxin/furan congener emission rates for a single D/F TEQ datapoint) for these standards to determine variability, to determine how EPA handled the non-detect, below detection limit and detection level limited data, and the appropriate statistical method to apply to determine the performance of the "best performers" on which the proposed MACT floor is based. Industry commenters have been working diligently to analyze the methodologies and assumptions in eleven workbooks, determine if there are errors, assess the implications of the methods used for the proposed limits, and prepare comments based on such analyses. EPA has not provided an adequate opportunity for meaningful review and public comment because of the delays in making key documents available for public review, especially given the short comment period relative to the breadth and scope of the proposed regulation.

The delays in providing critical information have not been exclusive to these proposed HAP limits. The proposed rule would affect virtually every operation at an II&S facility. The significant delays in completing the docket, which has yet to be accomplished, also apply, for example, to the proposed opacity and work practice standards and fenceline monitoring requirements (*e.g.*, the Excel workbooks on UFIP costs, emissions, and emissions reductions; and the fenceline Cr Delta-C calculation).

B. The proposal violates CAA Section 112(d) because EPA fails to consider cost as required by Section 112(d)(2).

The proposed approach for establishing twenty-six (of thirty) proposed new emission limits for what are described as "unregulated" HAPs is contrary to the plain language of CAA Section 112(d). EPA purports to be establishing these twenty-six new HAP limits under CAA § 112(d)(2) and (d)(3) pursuant to *LEAN* precisely because they are "unregulated" HAPs. This means, in EPA's view, that no limits exist to regulate these HAPs. As explained in detail in Section III, *Section 112(d)(2)* provides the standard-setting authority and guideposts for MACT standards, requiring the "maximum degree of reduction in emissions of the hazardous air pollutants subject to this section . . . *taking into consideration the cost*."[13] By proceeding first with *Section 112(d)(3)* analyses for the various new pollutants in its proposal, EPA turns the contemplated standard setting on its head and ignores cost—a key consideration that Congress intended to be taken into account.

[12] Industry Commenters requested the missing information and that the comment period be extended by *at least 45 days after* all information was provided for public inspection in adherence to the requirements of Section 307, but EPA has yet to provide several other items that the Industry Commenters requested. Nothing in these comments should be construed to suggest that EPA could legally close the comment period prior to 30 days from posting in the docket the documents and information on which it relied to develop the proposal.

[13] 42 U.S.C. § 7412(d)(2).

– but such costs have not been properly considered in the agency's development of any of its proposed MACT standards.

The new proposed emission standards illustrate the impact of EPA's error here. As detailed below, Industry Commenters estimate the compliance costs of the proposed requirements at approximately $3.2 billion in capital investment and $749 million in annual costs (not including significant lost production and revenue required for installation).[14] Given the limited datasets on which EPA bases the proposal, companies will be required to install additional controls in order to assure that they can meet the standards and certify to continuous compliance. These costs are not justified by environmental or public health benefit being achieved. Indeed, EPA does not even attempt to do so. Remarkably, the proposal asserts that these costs do not exist:

> [W]e are proposing MACT floor limits (not BTF limits), so we think all facilities should be able to comply with these MACT floor limits with their current controls (i.e., we expect there will be no new control costs for the new MACT floor limits).[15]

Such a conclusion not only is illogical, but it also disregards available emission data from each of the affected sources – sinter/recycling plants, BF stoves, BF casthouse control devices, and BOPF primary control devices. As detailed below, even the very limited data set that EPA relies upon for its UPL calculations shows individual performance test runs *exceed* or are close to the proposed emission standards for nearly all of the HAPs for which EPA proposes new limits.[16] Thus, contrary to EPA's conclusion, instead of continuous compliance through the use of current controls (which serve intended purposes other than controlling for these HAPs), the record indicates potential for non-compliance - unless facilities install new control equipment. Appendix K to these comments provides Industry Commenters estimated compliance costs as detailed in subsection K below.

As Section 114 and Title V of the Clean Air Act each require certification of compliance status (either continuous or intermittent) to avoid state or federal enforcement action and potential citizen suit, where facility test data yield results exceeding or approaching the of the standard, II&S facilities will need to determine if there is an appropriate technological control and then, if needed, install control equipment within 6 months after the proposed rule to ensure that they are able to certify such compliance, which would be impossible given outage planning, testing, contracting, engineering evaluation, plant reconfiguration, and numerous other time-consuming aspects of adding control equipment.

As EPA has not included it in the record, Industry Commenters have prepared as Appendix K to these comments a control cost analysis for the proposed standards. Appendix K to these comments includes an industry-wide estimate of total capital and operating costs based on what the industry evaluation of potential control technologies, the increased electrical and natural gas usage by the

[14] The data and information contained in these comments is calculated based upon several assumptions and on only the Rule as proposed. The data should not be considered to be a disclosure for any company or for the amounts to be applied to any specific facility.
[15] 88 Fed. Reg. at 49,416.
[16] ICR data show potential for exceedance of the respective proposed limits for the following: HCl for sinter/recycling plants, BOPFs, BF Casthouses and BF Stoves; CS_2, HF, COS, and PAHs for the Sinter/recycling plants; and THC for the BF Casthouses.

industry as a result of these required controls, as well as other contributing costs. There are additional costs, such as associated greenhouse gas (GHG) emissions, that have not been included in Industry Commenters evaluation. Notably, there has been limited time allowed for public comment after publication of these proposed limits. The control equipment evaluated by Industry Commenters is not in use at any of the facilities in this source category, the technological feasibility of installing the potential control equipment is unknown. Even if a technology existed and could be installed, there has been no testing to date of any of these pollution control technologies at facilities in this source category to determine if there would even be reliable emissions control, if any. Thus, even if new pollution control equipment were to be installed in within the 6 months allotted for compliance (which Industry Commenters do not believe is possible due to outage planning, testing, contracting, engineering evaluation, plant reconfiguration, air permitting requirements and numerous other time-consuming aspects of adding control equipment) and were to function as intended, facilities could spend millions of dollars and still have no certainty as to what removal efficiency could be achieved in practice for each affected source.

In addition to the potential for exceedance, the limited data underlying EPA's proposed standards also show orders of magnitude differences in emissions, which further indicates that the use of control equipment would be needed to assure compliance. Given this, EPA cannot finalize a standard with the existing data and claim that no source would be required to install emissions controls in order to avoid accounting for the full costs of the proposed rule.

C. The proposed emission limits are based on data that is not sufficiently representative of the range of operations in the industry and thus cannot be finalized.

EPA solicits comment on "the data used to calculate the MACT floor limits[.]"[17] As detailed below on a source-by-source basis, the proposed limits are based on *insufficient* data and are, therefore, not representative of existing source performance to support EPA's statistically-driven UPL approach to MACT standard-setting. This is especially important given the very stringent level at which the limits would be set. As emission limits become more stringent (and approach measurement detection levels), the concerns about accuracy of tests and variability of results across tests are exacerbated.

The existing source "floor" must be an emission limitation *actually being achieved* by the best-performing five sources in the category, and the new source floor is that achieved by the best controlled source.[18] This proposal relies on such a limited dataset—*i.e.*, data from much fewer than five sources for each of the thirty HAPs – that the "floor" is not representative of the best performing sources. As EPA explains, it often used *only* "*two units* that it [EPA] identified as the top 5 best performing units,"[19] and EPA has not demonstrated that data to be representative of those designated as best performers.

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[17] 88 Fed. Reg. at 49,417.
[18] 42 U.S.C. § 7412(d).
[19] Memorandum from Phil Mulrine, U.S. EPA, Office of Air Quality Planning and Standards, to Integrated Iron and Steel (II&S) Response to Louisiana Environmental Action Network (LEAN) Decision Project File, at 9-13 (July 12, 2023) ("EPA Approach for Applying the Upper Prediction Limit to Limited Datasets"), EPA Docket No. EPA-HQ-OAR-2002-0083-1470.

1. Insufficient data underlies EPA's thirty proposed HAP limits.

As discussed below, underlying nearly all of EPA's proposed limits for each source type – BF Casthouses, BF Stoves, BOPF Primary Control Devices, and sinter/recycling plants – is a very small dataset. In most cases, EPA has only test results from two sources. Indeed, even where EPA may have a test result consisting of the required three individual test runs, the testing results are for a single unit. Using such limited datasets fails to ensure that EPA is actually determining what emission limitation the "best performers" are achieving, and this prevents a determination of the "average emission limitation" being achieved by such sources. Compounding the problem is that the information on which EPA relies is limited to the same season from around the same time period. This means that the tests do not represent performance of these "floor units" across the range of operations, processes, potential raw material inputs (*e.g.*, coke, limestone, iron ore, dolomite, scrap), products being produced, and seasons in which a facility operates. In 2003, EPA declined to use the UPL approach to set emissions limits for the very reason that it had such limited data. During the original NESHAP, EPA explained:

> The only available data regarding organic HAP emissions from these units are from two tests we conducted. These tests are insufficient to generate a meaningful characterization of emission control levels that can be achieved under varying process conditions over time, and there is no way to use this emissions test data to identify the best-performing plants.[20]

EPA also understands that, while its UPL also allows EPA to "address *variability of emissions data* from the best performing source or sources in setting MACT standards" and to account for "uncertainty associated with emission values in a dataset," the degree to which the UPL can address variability is "*influenced by components such as the number of samples available for developing MACT standards and the number of samples that will be collected to assess compliance with the emission limit*."[21] A dataset must be sufficiently "representative of variability . . . *before* applying the upper prediction limit."[22] An EPA memorandum in the rulemaking docket makes clear that EPA itself believes the dataset here is too small to support standard-setting: "A MACT floor dataset based on fewer than 7 data points is considered to be a limited dataset."[23] Indeed, critical elements of the UPL approach, such as the determination of the data distribution, t-statistic, variance, and mean all are dependent on sample size. Additionally, the equations used to evaluate the data distribution heavily rely on sample size for addressing error and accuracy,[24] yet such limited data pervade the record for the proposed 30 new HAP limits. The proposed standards highlighted in gray below are derived from a MACT floor pool with less than 7 *data points* and/or

[20] 68 Fed. Reg. at 27,657.
[21] EPA Approach for Applying the UPL to Limited Datasets, at 1 (emphasis added).
[22] *See e.g.*, *Nat'l Ass'n of Clean Water Agencies v. EPA*, 734 F.3d 1115 (D.C. Cir. 2013).
[23] Memorandum from Jeremy Kaelin, Haley Key, and Gabrielle Raymond, RTI International, to Phil Mulrine and Chuck French, EPA/OAQPS/SPPD, on MACT Standard Calculations, Cost Impacts, and Beyond-the-Floor Cost Impacts for Integrated Iron and Steel Facilities under 40 CFR Part 63, Subpart FFFFF, at 12, tbl. 17 (March 27, 2023) ("EPA II&S MACT Calculations, Cost Impacts, and BTF Cost Impacts Mem."), EPA Docket No. EPA-HQ-OAR-2002-0083-1444.
[24] *See, e.g.,* EPA Approach to Applying the UPL to Limited Datasets, at 1.

only *two tests*, as shown in EPA's Tables 17 and 25 (copied below). The UPL approach undertaken for the proposed HAP limits does not account for all of these variables nor does it address the problems created by using the baseline presented by such a small dataset.

EPA Table 17. Number of Sources in Existing and New Source MACT Floor Pool per Unit Type and HAP[25]

Unit Type	HAP	Number of Sources with Data	Existing and/or New Source	No. Sources in MACT Floor Pool	No. Data Points in MACT Floor Pool (n)
BF Casthouse	HCl & THC	2	Existing	2	6
			New	1	3
BF Stove	HCl & THC	3	Existing	3	9
			New	1	3
	TEQ	2	Existing	2	6
			New	1	3
BOPF	HCl & TEQ	2	Existing	2	6
			New	1	3
	THC	2	Existing	2	6
			New	1	3
Sinter Plants	HCl, PAH, & TEQ	4	Existing	4	13
			New	1	3
	Hg	2	Existing	2	6
			New	1	3
	HF	2	Existing	2	14
			New	1	7
	COS	4	Existing	4	12
			New	1	3
	CS_2	2	Existing & New	2	6

EPA Table 25. Limited Datasets[26]

Unit Type	HAP	Existing and/or New Source	No. Data Points in MACT Floor Pool (n)
BF Casthouse	HCl & THC	Existing	6
		New	3
BF Stove	HCl & THC	Existing	9
		New	3
	TEQ	Existing	6

[25] EPA II&S MACT Calculations, Cost Impacts, and BTF Cost Impacts Mem., at 21-22, tbl. 25.
[26] *Id.*

Unit Type	HAP	Existing and/or New Source	No. Data Points in MACT Floor Pool (n)
		New	3
BOPF	HCl, THC, & TEQ	Existing	6
		New	3
Sinter Plants	HCl, PAH, & TEQ	Existing	13
		New	3
	Hg	Existing	6
		New	3
	COS	Existing	12
		New	3
	CS_2	Existing & New	6
	HF	Existing	14
		New	7

The proposal claims that for each limited dataset:

> [EPA] performed the [following] steps ……: ensuring that we selected the data distribution that best represents each dataset; ensuring that the correct equation for the distribution was then applied to the data; *comparing individual components of each limited dataset to determine if the standards based on limited datasets reasonably represent the performance of the units included in the dataset*; and *comparing the calculated UPL to the representative detection limit (3xRDL) value ensuring the final MACT limit is at a measurable value*.[27]

This implies that a somewhat fulsome analytical review of these data has occurred, notwithstanding its limited nature. Unfortunately, that is not the case. An example is EPA's review of the 6 data points underlying its proposed BF casthouse HCl limit, which EPA describes as:

> The MACT floor dataset for HCl from existing blast furnace casthouse sources includes 6 test runs from *two units that we identified as the top 5 best performing units with available information based on average emissions performance*. We determined that the dataset is best represented by a normal distribution, ensuring that we used the correct equation for the distribution. A comparison of the UPL to the 3xRDL confirmed the greater HCl value was the UPL. Therefore, we determined that the emission limit would reasonably account for variability, as well as measurability, and that no changes to the standard floor calculation procedure were warranted for this pollutant and category, and we are proposing that the MACT floor is 0.0013 lb/ton iron for HCl from existing blast furnace casthouse sources.[28]

This shows that EPA uses "*two units . . . as the top 5 best performing* units" and then attempts to make sure that "[a] comparison of the UPL to the 3xRDL confirmed the greater HCl value was the

[27] EPA Approach for Applying the UPL to Limited Datasets," at 9.
[28] *Id.*

UPL." [29] And with that, EPA concludes that the emission limit would reasonably account for variability, as well as measurability, and that no changes to the standard floor calculation procedure were warranted for this pollutant and category." EPA does not explain why it has determined that such limited data – two out of 17 stoves industrywide, without taking into consideration factors that could influence emissions, such as the material inputs to the stoves on that day or process and operational conditions—could be sufficient. Additional measures need to be taken to properly account for variability and a very small sample size.

In this industry, the conglomeration of raw materials fed to blast furnaces, sinter/recycling plants, and BOPFs make representation of emissions variability even more critical. Given the complex nature of emission sources in the II&S source category, EPA should give extra consideration to whether available stack test data sufficiently represent the full range of conditions influencing emissions performance. Emissions performance at a single emission unit can vary based on the amount and type of raw materials used, the raw material content variability (here, *e.g*., the chemical content of limestone, coke, and ore fed to the blast furnace), operating conditions (*e.g*., grades of steel being processed), and seasonally (*e.g*., additives for freeze protection during rail transport of the coke, which can cause a significant shift in the chlorides within the coke and affect HCl emissions). EPA has not demonstrated that stack test results in the dataset reflect the full range of operating conditions at II&S sources, including the range of raw material variability, or seasonal variability.

Accounting for operational variability is especially important because the emission units may yield unpredictable emission rates for different stages of the process. (*e.g*., BOPFs are charged with constantly differing scrap metal loads with varying compositions. BOPFs operate differently across the industry with open vs. closed designs, none of which can be sufficiently differentiated with the data set upon which EPA's proposal relies.

2. Available data does not support EPA's thirty proposed HAP limits.

Even if EPA had a sufficient number of datapoints, which it does not, the proposed limits have not been appropriately derived from *available* data. For instance, the proposed HAP limits and EPA's development documents do not address the *orders of magnitude differences* in test results reflected in the available data, as shown in Figures VII-3 and VII-4, below.

Second, as detailed below for each point source type, EPA makes several significant errors in its UPL calculations. For instance, in its proposed BF Stove THC and HCl limits as well as its BOPF Primary Control Devices THC limits, EPA has applied incorrect emission factors and used incongruous production data. The proposed D/F limits for sinter/recycling plants include a rounding error and, while Industry Commenters are unable to verify due to the lack of information provided in the docket, additional discrepancies can reasonably be expected for the pound per hour (lb/hour) emission rate used in development of the proposed D/F and HF limits for the sinter HF limits. These specific errors, among others, are detailed in the comments below.

[29] *Id.*

Third, where datasets present frequent measurements that are close to or below minimum detection levels, EPA has not fully considered this impact on the ability for compliance demonstration given the minimum measured concentrations available via the method detection levels (MDLs). For this reason, where warranted, EPA should consider pollution control techniques, such as work practice standards, rather than pushing forward with numerical limits that lack a statistically and technologically sound basis. Such an approach would be consistent with Section 112(h), which provides that EPA sets a work practice standard where the application of measurement methodology to a particular class of sources is not practicable due to technological limitations.[30]

Fourth, the preamble suggests that the proposed approach to account for measurement variability using 3 times the representative detection level (3xRDL) results in 15 percent "imprecision" *even where the underlying dataset is sufficiently large* – which is not the case here.[31] Given the limited dataset and known imprecision in its MACT-settling methodology, EPA should adjust the following proposed MACT floors that it has set using the 3xRDL approach upwards by *at least* 15 percent:

- BF stoves D/F limits
- BOPF primary control devices D/F limits
- Sinter/recycling plants HF and CS_2 limits.

Fifth, in developing the proposed CS_2 and HF limits for sinter/recycling plants, EPA appears to arbitrarily deviate from its policy of selecting the UPL-based value for its limit when that limit is greater in comparison to a 3xRDL-derived value. For these limits, as detailed below, EPA selected the lower more stringent 3xRDL value, rather than the higher UPL value. EPA appears to arbitrarily deviate from its normal procedure but fails to explain why it has done so or why its alternative approach is sufficient to reflect the emission limitations that the sources that comprise the MACT floor are achieving.

Sixth, without transparency or explanation EPA appears to arbitrarily use a skewed UPL template when calculating BOPF Primary Control Device limits for HCl and D/F TEQ. Although data distribution called for a lognormal template, when the calculated UPL using the lognormal template equated to more than 15 when compared to the average of the data in the floor pool, EPA decided to use a skewed UPL template for its UPL calculation instead – but it only has done this in some instances. The agency was not consistent; it allowed the use of the lognormal UPL template where the resulting UPL was more than 17 times the average of the data in the floor pool in the case of its proposed THC limit for BF Stoves. EPA has not explained its back-end switch to a skewed template in some instances and not others, and certainly has not explained why its selective use of a skewed template would produce a MACT limit that would be more representative of a best performing unit than use of a lognormal template.

Finally, as detailed in subsection G, below, Industry Commenters submit additional stack tests with these comments in Appendix L, that cover EPA's proposed MACT standards for BF Stoves,

[30] *See* 42 U.S.C. § 7412(h)(2)(B).
[31] *See* EPA Brick MACT Floor Analysis Mem., at 7; EPA II&S MACT Calculations, Cost Impacts, and BTF Cost Impacts Mem., at 7.

BF Casthouses, and BOPF Primary Control Devices. Industry Commenters have reviewed these data and, when combined with the data that currently underly EPA's proposed standards in a UPL calculation, nearly all of the resulting UPL values are higher than EPA's proposed limits.[32] At a minimum, Industry Commenters' analyses of these data, attached as Appendix J, demonstrates that the limited datasets upon which EPA has based its proposed standards are not accounting for variability, and EPA has not reasonably concluded that the proposed standards are representative of best performers. EPA must take this additional data into account in its proposed rule.

D. BF Stoves (D/F, HCl and THC)

EPA proposes new emissions standards for total hydrocarbons (THC), HCl, and dioxin/furan (D/F) for BF Stoves as follows:

Pollutant	Proposed Existing Source Limit	Proposed New Source Limit
D/F TEQ	3.8 x 10^{-10} lb/ton of iron	3.8 x 10^{-10} lb/ton of iron
HCl	5.2 x 10-4 lb/ton of iron	1.4 x 10^{-4} lb/ton of iron
THC	0.1 lb/ton of iron	0.0011 lb/ton of iron.

In development of these proposed limits, EPA relied on data collected during the 2022 ICR, as summarized here:

For HCl, EPA relied on a total of 9 runs for HCl from three BF Stoves:	• 1 test result (3 runs) for the BF Stove at the Burns Harbor facility • 1 test result (3 runs each) for two BF stoves at the Braddock facility
For THC, EPA relied on a total of 9 runs for THC from three BF Stoves:	• 1 test result (3 runs) for the BF Stove at the Burns Harbor facility • 1 test result (3 runs each) for two BF stoves at the Braddock facility
For D/F TEQ, EPA relied on a total of 6 runs (3 runs from one BF Stove in combination with 3 runs from a boiler) for D/F from two BF Stoves:	• 1 test result (3 runs) for the *outlet of boiler* at the Granite City facility • 1 test result (3 runs) for the BF Stove at Burns Harbor facility

EPA's UPL workbooks indicate there are 17 BF Stoves in the industry.[33] EPA estimates that, industry-wide, BF Stoves emit 0.076 g/yr of D/F, 4.5 tpy of HCl, and 200 tpy of THC.[34] EPA proposes THC as a surrogate for organic HAP, other than D/F.[35] Historic testing results consistently show that only trace amounts of these constituents (D/F, HCl, THC) are emitted from

[32] It is important to note that the UPL methodology is not a linear one – *e.g.*, higher test results will not always equate to a higher UPL value, and other aspects of the UPL methodology that can drive the UPL value upward also change based on the underlying dataset. For instance, the relative standard deviation (RSD) shows how much a dataset varies without concern for the dimensional scale.
[33] *See* EPA UPL Workbooks.
[34] *See* 88 Fed. Reg. at 49,417, tbl. 4.

BF Stoves. This makes sense because, according to EPA, the BF Stove is not a primary emitting unit within the casthouse:

> *The major emissions of interest occur from the casthouse during tapping when molten iron and slag are removed from the furnace*. . . .The gas leaving the blast furnace is primarily CO and nitrogen and is heavily laden with PM. The gas is cleaned and is used as fuel in the blast furnace stoves and other operations at the plant. *Emissions occur from the stove stack when this gas is burned.* The quantity and composition of these emissions are affected by the amount and type of particles remaining after cleaning and the combustion conditions when the fuel is burned.[36]

The 2022 ICR testing results show very low levels of HAP emissions from BF Stoves, as detailed below.

1. EPA should not finalize its proposed D/F limit for BF Stoves because D/F is not present, or, if present, is only in trace amounts.

EPA estimates that the 17 BF Stoves in the source category collectively emit *0.076 grams per year of D/F*. EPA has based its proposed standards for BF Stoves on a limited data set of six test runs for D/F at two BF Stoves in the 2022 ICR data. [37] EPA flagged a remarkable 83 percent (5 out of those 6 results) of those results as below detection limit (BDL).[38] Such a high percentage of BDL runs at least suggest that EPA should question whether the pollutant is even emitted from BF Stoves, and it should certainly not provide a basis for establishing a numerical emission limit that will be enforced against sources, putting them at risk of substantial penalties.[39]

The proposed limits show the same result. EPA proposes BF Stove D/F TEQ MACT standards that it purports represent 3 times the representative detection limit (RDL) (when converted to the same units as the UPL (the converted 3xRDL).[40] In other words, one-third of the proposed MACT standard for D/F TEQ from BF stoves is the representative detection limit (converted RDL) (*i.e*., the lowest level EPA considers to be measurable). Industry Commenters have compared the six test runs in the data underlying the proposed D/F standards for BF Stoves to that converted RDL value. As shown in Figure VII-1, when compared to the converted RDL, *all of the test runs are non-detect by EPA's own standards* – which further supports a conclusion *that D/F is not emitted, or, if it is, only in such trace amounts* that there is insufficient data to set a numerical emission limit for D/F from BF Stoves. This is consistent with general scientific principles as well as reliable information in EPA's database that also indicate D/F from BF Stoves is below measurable levels.

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[36] EPA, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Plants - Background Information For Proposed Standards, at 34-35 (Jan. 2001) ("2001 EPA BID"), No. EPA-HQ-OAR-2002-0083-1398 (emphasis added).

[37] 88 Fed. Reg. at 49,417, Table 4.

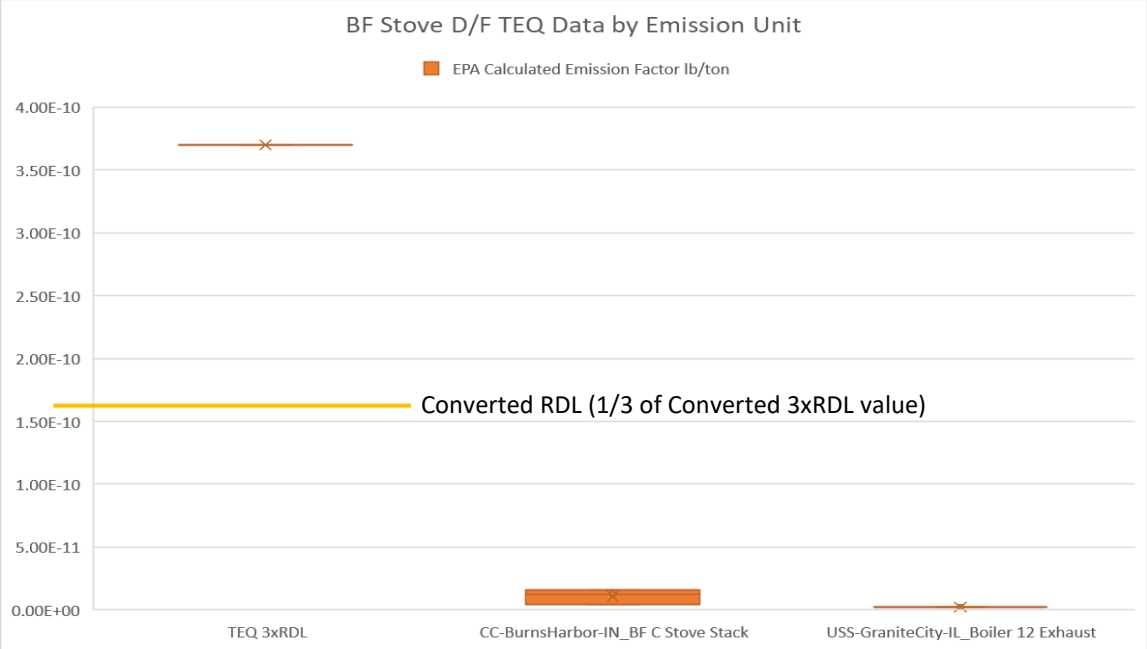
[38] Memorandum from Jeremy Kaelin, Ricky Strott, Haley Key, and Gabrielle Raymond, RTI International, to Phil Mulrine, EPA/OAQPS/SPPD, on Point Source Data Summary for Integrated Iron and Steel Facilities under 40 CFR Part 63, Subpart FFFFF, at app. A (April 3, 2023) ("EPA II&S Point Source Data Summary Mem."), EPA Docket No. EPA-HQ-OAR-2002-0083-1441.

[39] *E.g*., in the past, when 75 percent of tests are non-detect, EPA has indicated it would consider a work practice in lieu of a numerical standard and, if all test runs were non-detect, they would consider that evidence the pollutant is not emitted.

[40] *See* EPA II&S MACT Calculations, Cost Impacts, and BTF Cost Impacts Mem., tbl. 23 (providing RDL values).

It is also consistent with Section 112(h), which provides that EPA sets a work practice standard where the application of measurement methodology to a particular class of sources is not practicable due to technological limitations.[41]

Figure VII-1 – Comparison of 2022 ICR D/F TEQ Testing Results to Converted RDL Value



Blast Furnaces Gas (BF gas) (which is the primary fuel combusted in the stoves) is controlled by integral wet or semi-wet control systems, and EPA possesses sampling data from the BF gas air pollution control device wastewater for D/F emissions.[42] EPA's wastewater sampling studies demonstrated that "[n]o measurable dioxins and furans were found in treated BF wastewater only

[41] *See* 42 U.S.C. § 7412(h)(2)(B). As detailed in Section III, while EPA may argue that action to set a work practice under Section 112(h) is discretionary since Section 112(h)(1) states that EPA "may" promulgate a work practice if it is not feasible to impose a numeric limit, nothing in Section 112(d) or (h) allows EPA to set a Section 112(d) standard using BDL measurements. Given that this situation meets the definition of "infeasible" in Section 112(h)(2)(B) and because EPA lacks the information to proceed with a Section 112(d) standard, it has not choice but to proceed under Section 112(h).

[42] This information was developed when EPA conducted extensive wastewater sampling throughout the II&S industry to support its development of effluent guidelines for BFs used to produce molten iron. *See* EPA, Development Document for Final Effluent Limitations Guidelines and Standards for the Iron and Steel Manufacturing Point Source Category, at p. 3-10 (2002) ("EPA II&S Development Document") (providing sampling protocol and explaining that "[e]ach type of [BOF wet and semi-wet] air pollution control system operates in a different manner. . . . However, the wastewater characteristics are similar[,]"and explaining that EPA collected "[t]wo days of samples, usually consecutive, of blast furnace ironmaking, sintering, and basic oxygen furnace steelmaking wastewater for dioxins/furans").

. . ."[43] Based on its sampling results, EPA did not set D/F effluent guideline limits for BFs.[44] This supports reaching the same conclusion for BF gas from BF Stoves because, if present, the wet controls may have dissolved D/F in water such that it would have been detected in the wastewater.[45] It was not.

This conclusion also makes sense from a chemistry perspective. BF Stoves operate at extremely high-temperatures, such that the environment is hostile to and would act to destroy D/F. In particular, in BF systems, hot BF gas from the furnace routes to a wet control device, and then from the control device, the BF gas is combusted at high temperatures at the BF stoves or other combustion units. Engineering information EPA has shown that conditions within the BF stove promote the destruction of any D/F similar to what occurs in thermal incinerators. Under the BF process, BF gas is generated at extreme temperatures within the BFs of approximately 1,300 to 1,400ºC (2,400 to 2,500ºF). The BF gas is then routed to and cleaned by wet scrubbers (the wastewater from which EPA sampled and tested). From the wet scrubber, the BF gas goes directly to the BF stoves where it is combusted at high temperatures. As EPA is aware, thermal destruction of D/F occurs at temperatures above 590˚C and 650˚C (~1,100˚F and ~1,200˚F).[46] Temperature has the largest effect on the destruction of D/F in general.[47] As wastewater testing supports, and now stack testing data shows, combustion of BF gas within the BF stoves promotes the destruction of any potential D/F that may exist.

As discussed above, to the extent EPA can demonstrate presence of D/F in BF Stove emissions, it will be unable to prescribe a limit due to the limitations on measurement methods. So, if any limit is issued by EPA, it cannot be a numeric limit, but it would need instead to be a work practice (*e.g.*, good combustion practices).

If EPA nevertheless pursues D/F limits for BF Stoves, as discussed below, EPA should review and revise the limits to ones that are representative of the emissions limitations being achieved by the best performers. EPA should consider work practices, such as good combustion practices, in lieu of numerical limits, as detailed below.[48]

a. Basing the proposed D/F limit on only two tests, with a total of only 6 data points (5 of which are BDL) is not permissible.

[43] EPA II&S Development Document, at pp. 6-7 n.1, 7-54, 7-56.
[44] *See* EPA II&S Development Document.
[45] *Compare* Memorandum from Donna Lee Jones, Office of Air and Radiation, U.S. EPA Headquarters, to Integrated Iron and Steel (II&S) Residual Risk and Technology Review (RTR) Project File, regarding summary of II&S RTR emissions estimates, at 11 (May 1, 2019), EPA-HQ-OAR-2002-0083-0960 (providing sinter/recycling plant windbox D/F emissions) *with* EPA II&S Development Document, at pp. 1-7, 6-7 n.1, 7-21 (2002) (noting the presence of D/F in sintering wastewater).
[46] EPA, Treatment Technologies for Dioxin-Containing Wastes, EPA/600/2-86/096, at pp. 3-4, 4-1 (1986).
[47] David Lewandowski, Design of Thermal Oxidation Systems for Volatile Organic Compounds 368 (1st ed. 2017).
[48] For the same reasons discussed earlier in this section, under Section 112(h)(1) and (2), EPA could establish work practices here.

As it noted in the docket, EPA considers the data set for its proposed D/F limits for new and existing sources to be "limited" as there are less than 7 data points[49], and only two tests providing those datapoints – specifically, for D/F, there are two tests, totaling 6 runs.[50]

In this type of situation, EPA cannot rely on the data to establish the MACT floor using a UPL approach. Indeed, EPA has stated:

> [I]f fewer than 3 data points are available for use in determining an emission limit for a particular source, and no other data from sources in the subcategory are available, we would have to establish a different procedure for establishing the MACT floor that does not rely on the UPL.[51]

Because 83 percent (5 of 6) of the test runs relied upon by EPA did not detect D/F and because it would be technologically infeasible for pollution control equipment to guarantee any degree of control of such low or dilute concentrations of D/F (which fall below the lowest target concentrations and capture limitations of such equipment), EPA cannot proceed with the proposal. Instead, there are ways to address the non-detect test runs for D/F, such as by issuing a good combustion work practice standards.

b. If EPA proceeds with 3xRDL-based MACT floors for D/F, at least a 15 percent upward adjustment is required to account for measurement variability and known imprecision.

Compounding the proposal's reliance on an insufficiently small dataset is how EPA has handled the at or near or BDL measured emissions levels within that dataset – what is known as "measurement variability." Even where the dataset is sufficiently large, EPA and the scientific community acknowledge that measurement variability must be taken into account:

> At very low emissions levels . . . the inherent imprecision in the pollutant measurement method has a large influence on the reliability of the data underlying a MACT floor emission limit. *Of particular concern are those data that are reported near or below a test method's pollutant detection capability*.
>
> Variability of data due to measurement imprecision is inherently and reasonably addressed in calculating a MACT floor emission limit when most of the data are significantly above the method detection limit. *For datasets with a large number of test results below the method detection limit (reported as method detection limit values), other techniques need to be used to account for data variability.* Indeed, under such a shift, the data distribution becomes truncated on the lower end, leading to an artificial overabundance of values occurring at the method detection limit. *There is a concern that a MACT floor emission limit based on a truncated data base (i.e., calculated using values at or near the method detection limit) may not*

[49] EPA Approach to Applying the UPL to Limited Datasets, at 8, Table 1.
[50] *See* EPA II&S Point Source Data Summary Mem., at app. A.
[51] EPA Approach to Applying the UPL to Limited Datasets, at 2.

> *account adequately for data measurement variability, because the measurement error associated with those values provides a large degree of uncertainty.*
>
> The expected measurement imprecision for an emissions value occurring at or near the detection limit is about 40 to 50 percent. *Relative pollutant measurement imprecision decreases to a consistent 10 to 15 percent for values measured at a level about three times the method detection limit* (ASME, 2001).[52]

When addressing under-representativeness due to measurement variability resulting from a higher frequency of close to or BDL results, EPA will institute an "approach taken to account for measurement variability includes defining a detection limit that is representative of the data used in establishing a MACT standard emission limitation and also minimizes the influence of an outlier test-specific method detection limit value."[53] For instance, EPA will opt to use 3xRDL for the floor if the UPL results in less than 3 times the representative detection levels from available pollutant-specific method detection levels.[54]

For BF Stove limits, this resulted in EPA using 3xRDL for its proposed D/F limit. This still leaves an imprecision of "a consistent 10 to 15 percent"[55] and does not account for the insufficient size of the dataset lack of operational and seasonal variation. Because EPA knows of an imprecision of 10 to 15 percent in the RDLs, at a minimum, it must adjust its proposed HAP limits for D/F upwards by at least 15 percent. This is important to ensure that the floor represents the emission limitation actually being achieved by the best performers. If EPA fails to do this, even the top performer may not be able to achieve the limit consistently. In addition, EPA should apply other techniques to account for the data variability lacking due to the limited dataset size.

Alternative D/F Limit for BF Stoves	Basis
No standard	5 out of 6 runs result in no detect 6 out of 6 runs less than RDL At most, 1% of D/F category emissions based on EPA's conservative upper-end estimates
Good combustion work practice	Scientific engineering principles
15% or more increase in proposed limit	Inherent imprecision in 3xRDL-based floors even with a sufficiently large dataset

2. EPA should not finalize its proposed BF Stove emission limits for HCl and THC because they are based on inadequate data and/or floor-setting analyses.

[52] Memorandum from Gabrielle Raymond and Kristin Sroka, RTI International, to Sharon Nizich, EPA/OAQPS/SPPD, on Final Maximum Achievable Control Technology (MACT) Floor Analysis for Brick and Structural Clay Products Manufacturing, at 7 (Sept. 24, 2015) ("EPA Brick MACT Floor Analysis Mem.") (emphasis added).
[53] *Id.*; *see* EPA II&S MACT Calculations, Cost Impacts, and BTF Cost Impacts Mem., at , at 7.
[54] EPA II&S MACT Calculations, Cost Impacts, and BTF Cost Impacts Mem., at 7-8.
[55] *Id.*, at 7 ("These RDL values are then multiplied by three to decrease measurement imprecision to around 10 to 15 percent.")

The data set for HCl and THC limits applicable to new sources is also too limited.[56] While there are more than 7 data points for THC or HCl, this data *are* still limited for a several reasons. For example, EPA only has data from one test date for each of the three BF stoves in the MACT floor pool. Such a time-limited dataset cannot adequately characterize the THC and HCl emissions performance, since a single test event cannot reflect the range of operating conditions and other variability factors because it occurs over a fairly short period of time (*i.e.,* the same day or over two to three consecutive days). Statistically, having at least a second test (3 more runs) for any one of the BF stoves would have improved the quality of the dataset and provided more of a basis for EPA to assess the range of variability.

MACT limits must be representative of what is achieved by top-performing units across the range of operations, processes, raw material inputs, and seasons to account for variability.

EPA itself states that "it is important to account for seasonal variations and examine data covering 1 year or more to account for variability due to differences in ventilation rates, weather conditions, and changes in the process overtime."[57] EPA also has explained the effect of raw material inputs on emissions:

> In the blast furnace process, the heated raw materials react chemically with one another. The principal set of reactions are the complex ones between coke, air, and iron ore. Part of the coke is consumed by the oxygen in the air to produce heat for the process. Another part of the coke combines with the oxygen in the iron ore and releases free iron, which melts, drips to the bottom of the furnace, and collects in the hearth. A final portion of the carbon dissolves in the iron. The heat of the blast furnace serves to calcine the limestone. The resulting calcium oxide reacts with the impurities in the ore, principally sulfur, and, in molten form, descends to the hearth. . . .
>
> Blast furnace gas is primarily CO . . . as it leaves the furnace. The gas is cleaned and is used as fuel in the blast furnace stoves and other operations at the plant. Emissions occur from the stove stack when this gas is burned; these emissions are generally uncontrolled at all facilities in the industry.[58]

a. The proposed HCl limits fail to account for variations in raw materials, process, and operations.

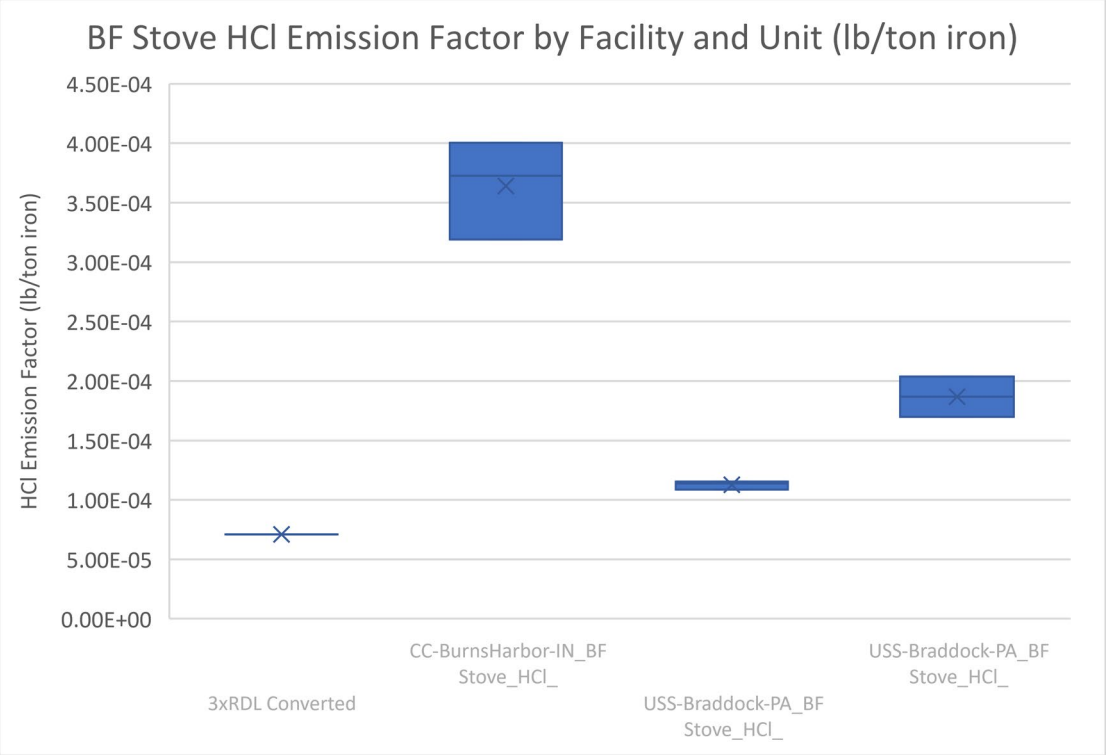
Limestone or coke materials fed to the blast furnace are more likely the source of chlorine and fluorine that can result in HCl or HF emissions from the BF Stove. In addition to variability *between* feed types, there can be variations *within* a single feed type, which EPA has not taken into account. For instance, during colder seasons, suppliers must use additives for freeze protection during rail transport of the coke, which can cause a significant shift in the chlorides within the coke and affect HCl emissions. For facilities with sinter/recycling plants charging into the BF,

[56] EPA Approach for Applying the Upper Prediction Limit to Limited Datasets, at 8, tbl. 1.

[58] 2001 EPA BID, at pp. 3-14, 4-14.

there is variability in the output received from the sinter/recycling plant, which displaces iron ore, coke, and limestone feed. As shown in Figure VII-2, two stoves both using coke oven gas (COG) at the same facility (the Braddock – Edgar Thomson Plant) and generally identical operations show the concern in relying on such limited data as BF Unit #1 underrepresents variability.

Figure VII-2 – Comparison of 2022 ICR HCl Testing Results for BF Stoves



Feed is just one contributor to emissions variability. At times, different fuels may be combusted in the BF Stoves, such as BF gas, natural gas or, at some facilities, COG. The limited data set also does not account for the variation in emissions attributable to the different fuels that may be combusted by BF Stoves and affects emissions composition.

With regard to process variability, BF gas runs through a wet scrubber (that is integral to processes for mechanical purposes such as corrosion control, etc., rather than an add-on control) prior to combustion. Wet scrubber absorption or capture efficiency of waste gas constituents depends on characteristics of the water. Consequently, facilities can experience variability in the degree of mist carryover. In addition, some BFs use pulverized coal injection, which, depending on the characteristics of the particular coal in the injectate, could affect the amount of chlorides to varying degrees that reach the BF stove.

EPA also does not explain how it has accounted for irregularities of available testing results, such as the orders of magnitude differences between two BF Stove tests located at the same facility

presented in Figure VII-2. These anomalous results need to be investigated for possible outlier data in the MACT floor data pool or equipment and process differences that may affect results and that may need to be given additional weight. The dataset consisting of 2 or 3 test results that EPA uses is too small and must be expanded to account for such variability if EPA decides to finalize any limits. Without additional data, such low proposed limits need to be adjusted upwards to incorporate known variability not reflected in the limited dataset.

b. The proposal fails to account for variations in raw materials, process, and operations for the proposed THC limits or provide a reasonable basis for THC as an organic HAP surrogate.

THC emissions from the stoves, while dilute, are primarily a function of incomplete stove combustion. The stoves combust BF gas, which is primarily composed of CO, hydrocarbons present in fuel, such as natural gas burned. The stove stack exhaust is comprised of materials that are formed as a product of combustion or that have not combusted in stoves. While fluctuations in BF gas flow may occur during startup or switching between stoves for reheating, reheating when returning from an outage, those situations are monitored and of limited duration.

The proposal to impose a THC limit is misplaced as THC concentrations could be driven by methane or ethane in the stove exhaust from incomplete combustion, neither of which are organic HAP. EPA has presented no speciation of its estimated 200 tpy THC emissions to demonstrate that organic HAP compounds are present in the THC being emitted. Therefore, EPA has provided no evidence showing THC results from a regulated HAP vs. other non-regulated organic compounds. In addition, based on observed THC emission rates, it is not technologically feasible for facilities to control for such organic HAPs that may not be present in the exhaust, or if present, would be at concentrations at or below the lowest target concentrations and capture limitations of pollution control equipment, as further discussed below.

Nevertheless, as explained above, in the case of BF stoves in this industry, any THC emissions would come down to combustion efficiency. Thus, rather than a numeric THC limit, EPA should propose a work practice to maintain good combustion practices.

3. EPA should not finalize its proposed BF Stove limits because they are not properly derived from available data.

Even if data were considered to be sufficient, the proposed limits were not appropriately derived from *available* data. EPA must establish MACT floors using data in the record. In addition to the limited dataset EPA relies on, as noted above, Industry Commenters are submitting additional test results for agency review. When included in a UPL calculation these data, though still a limited dataset, result in higher UPL value than EPA's proposed limits, as detailed in subsection G, below.

a. EPA must correct its proposed HCl and THC limits for BF Stoves.

In addition to failing to account for variability, EPA has erroneously applied an incorrect emissions factor in its UPL calculations for its proposed HCL and THC limits and must correct it. The use

of incorrect production data resulted in EPA severely underestimating six HCl emission factors and six D/F TEQ emission factors, which are used in EPA's UPL calculations. Industry Commenters provide the corrected values in Appendix J.

EPA has also wrongly paired decade-old *steel* production data with BF stove combustion stack testing results in calculating proposed THC and HCl limits, resulting in proposed HAP limits that do not represent the actual performance of the best performing units. Production rates are key data that need to be accurately factored into any UPL calculation for it to be correct. Failure to do so renders the UPL (and any floor or emission limit based thereon) invalid. Further, the BF produces *iron* – not steel, so EPA erroneously paired incorrect (and non-contemporaneous) production data with the test results. EPA should have used contemporaneous *iron* production rates rather than steel production rates. EPA used 2012 BF stove production values for two tests (six runs) measured in 2022 that did not have associated production values. EPA only requested specific test results from Industry Commenters in 2022 and did not request the corresponding production values. Industry Commenters have provided comprehensive responses to EPA's 2022 ICR and timely supplemental information when requested from the agency. Instead of requesting the corresponding production values from Industry Commenters, the agency opted for an approach of mixing and matching the data. As a result, the proposed HCl and THC limits for BF Stoves do not represent the performance of *any unit*, let alone the best performers. Remarkably, this error was entirely avoidable (and exemplifies the haste being used for this rule, at the sacrifice of a high-quality record and reasoned decisionmaking). Industry Commenters provided production rate data to EPA on May 26, 2023.[59] The corrected production rate information results in higher emission factors for HCl and THC for BF Stove #1 and BF Stove #3 at the Braddock facility, as shown in Figure VII-2. Instead of finalizing unrepresentative standards based on mismatched data points, EPA needs to use the 2022 production values to revise its proposed THC and HCl limits.

The UPL limits for HCl from BF Stoves would be 9.72E-04 lb/ton iron, and for THC from BF Stoves should be 4.52E-02 lb/ton of iron based on the recalculated emission factors for tests already in EPA's dataset using the correct production data. Notably, these limits should be revised to pounds per fuel combusted (lb/MMBtu) – the typical units for combustion units, as detailed below.

[59] *See* Email from S. Fruh, U.S. EPA, to P. Mulrine and H. Key, U.S. EPA, on U. S. Steel email regrading additional production and heat input information (May 25, 2023), EPA-HQ-OAR-2002-0083-1346.

Figure VII-3 – Comparison of 2022 ICR HCl Testing Results for BF Stoves Using Corrected Emission Factors

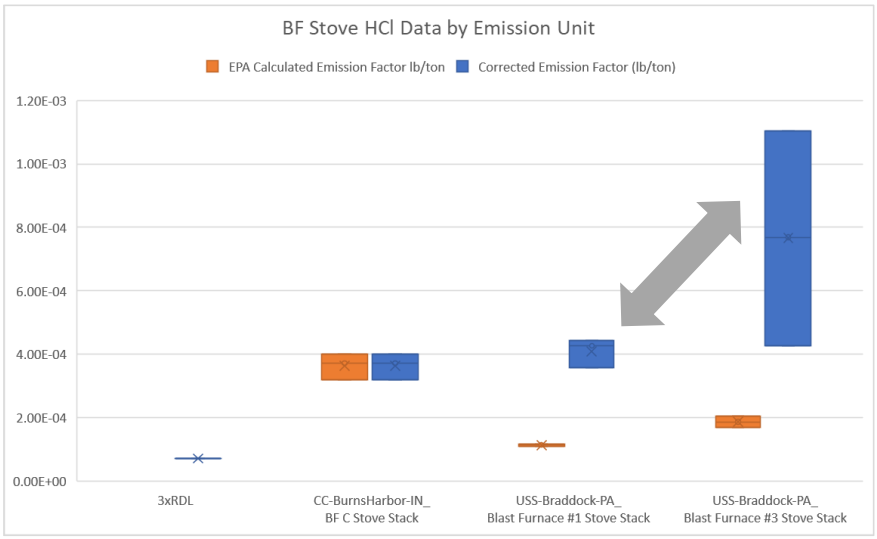
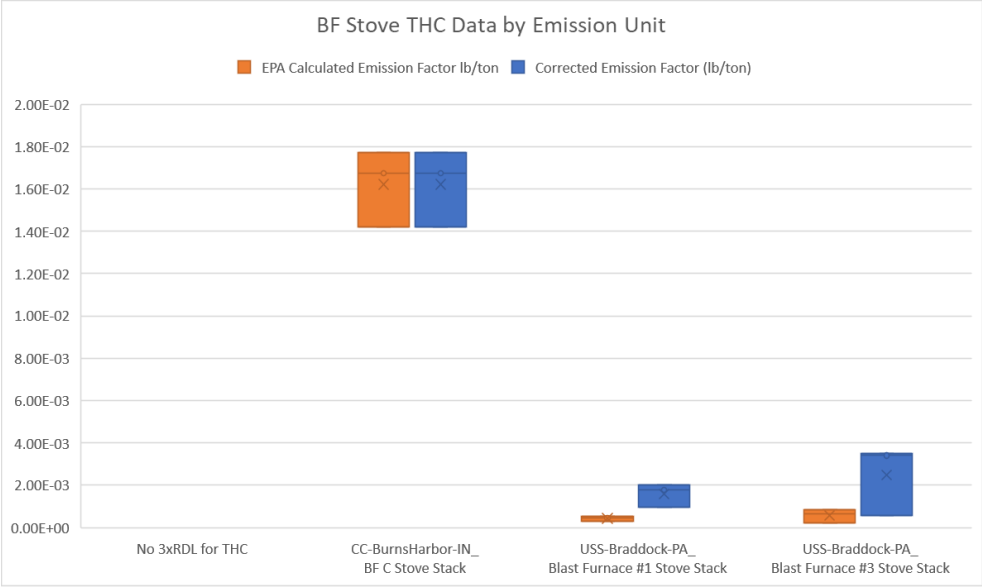


Figure VII-4 – Comparison of 2022 ICR THC Testing Results for BF Stoves Using Corrected Emissions Factors



b. If EPA nonetheless proceeds with BF Stove limits, the form must be revised to lb/MMBtu, and EPA erroneously used *iron,* rather than steel, production rates.

EPA solicits comment on "whether the format of the limits (lbs/ton) for BF Stoves is most appropriate or whether a different format would be more appropriate for the BF Stoves such as lbs of HAP per cubic foot of gas or lbs of HAP per British thermal unit (BTU)." [60] The proposed BF Stove limits are in lb/ton of steel production, but steel production is not correlated to BF Stove emissions. EPA should use contemporaneous iron production rates instead, which were provided on May 25, 2023.[61] Notwithstanding these errors, emission limits for combustion units including BF stoves would be most appropriately expressed as lb/MMBtu, as although stove and blast furnace operations are interrelated, there are significant site specific differences in operation which make blast furnace production inappropriate to use when developing a limit for BF stoves. Lb/ MMBtu would be more appropriate because the emissions per amount of heat released is more directly related to total quantity of emissions generated. Further, gas flow can be directly measured to account for varying BF stove operation. Iron production is intermittent with tapping and plugging of the furnace, so using emissions per ton could produce misleading results and should not be used. Appendix J provides revised limits for BF Stoves based on lb/MMBTU.

Table VII-1 – Summary table of deficiencies in EPA's proposed BF Stove MACT limits

HAP	Potential for Surrogate Instead of Proposed Numerical Limit	Insufficient No. of Data Points[a,c]	Insufficient No. Sources Tested[a,c]	Lack of Variability in Dataset[c]	Includes Significant % BDL Test Runs and Includes Imprecision of 15% or more	Errors of Significance in EPA Calculation	Technological Feasibility & Compliance Demonstration Concerns[b,c]
HCl	---	---	X	X	---	Production rate and emission factor	X
THC	X	---	X	X	---	Lack of justification for THC as surrogate for organic HAP	X
D/F	---	X	X	X	X	Emission rate and emission factor	X

[a] All insufficiency designations in this table are based on EPA's prior statements about data used for emissions standard setting and are not representative of Industry Commenters' agreement on the sufficiency of data underlying limits that is not designated as insufficient in this table.

[b] Technological feasibility and compliance demonstration concerns are presented below.

[c] New sources have even more limited datasets based on the available data from the single best performing source, and the technical feasibility issues (discussed below in these comments) are even greater with the lower limits EPA proposes for HCl and THC from new BF Stoves.

[60] 88 Fed. Reg. at 49,417.

[61] *See* Email from S. Fruh, U.S. EPA, to P. Mulrine and H. Key, U.S. EPA, on U. S. Steel email regrading additional production and heat input information (May 25, 2023), EPA-HQ-OAR-2002-0083-1346.

E. BF Casthouse Control Devices (THC and HCl).

The proposed MACT standards for HCl and THC for BF Casthouse Control Devices should be revised. The BF Casthouse is a "building or structure that encloses the bottom portion of a blast furnace where the hot metal (molten iron) and slag are tapped from the furnace."[62] EPA estimates that industry-wide BF Casthouse Control Devices emit 1.4 tpy of HCl and 270 tpy of THC (which EPA proposes as a surrogate for organic HAP).[63] Testing results have shown that only trace amounts of HCl are emitted from BF Casthouses, meaning the concentration in the exhaust is very dilute.

1. EPA should not finalize the proposed BF Casthouse Control Devices HCl limits.

Setting a MACT limit for HCl is unnecessary for BF Casthouse Control Devices. EPA-estimated source category emissions of HCl from BF Casthouse Control Devices is 1.4 tpy. This is less than 1 percent of the HCl emissions from EPA's total of 217.9 tpy of HCl from *all* of the processes EPA is considering in this rule. One of the 6 test runs for HCl from BF Casthouse Control Devices measured BDL.[64] Requiring the same compliance measures for BF Casthouse Control Devices (testing every 5 years) as the process category emitting 200 tpy which EPA primarily attributes HCl emissions is not reasonable.

If EPA nevertheless proceeds with THC or HCl limits for BF Casthouse Control Devices, EPA must revise the limits to be representative of what is achieved by the best-performing units taking into account the range of operations, processes, and seasons.

a. The proposed emission limits for BF Casthouse Control Devices are based on inadequate data and/or floor-setting analyses.

Only two tests underly EPA's proposed BF Casthouse emissions limits:

For HCl, EPA relied on a total of 6 runs for HCl from two BF Casthouse baghouses:	• 1 test result (3 runs) for the BF Casthouse baghouse at the Burns Harbor facility • 1 test result (3 runs) for the BF Casthouse baghouse at Braddock facility
For THC, EPA relied on a total of 6 runs for THC from two BF Casthouse baghouses:	• 1 test result (3 runs) for the BF Casthouse baghouse at the Burns Harbor facility • 1 test result (3 runs) for the BF Casthouse baghouse at Braddock facility

Yet EPA proposes to set UPL-based MACT limits for these sources. As noted above, EPA has declined to follow its UPL policies for when it has only two tests. In its supporting documentation, EPA considers the data set for the proposed THC and HCl limits for new and existing BF

[62] 40 C.F.R. § 63.7852.
[63] 88 Fed. Reg. at 49,417, Table 4.
[64] *See* EPA II&S Point Source Data Summary Mem., at app. A (listing BDL values in "Stack Test Data" tab).

Casthouses to be "limited" because the MACT floor pool consists of less than 7 data points.[65] More specifically, EPA has used two sets of samples to calculate its proposed THC and HCl MACT – "6 test runs from two units that we identified as the top 5 best performing units with available information based on average emissions performance" for its proposed limits for existing sources and "3 test runs from a single unit" for its proposed limits for new sources to be exact.[66] As EPA explains, "[a] t-score is a value that estimates the uncertainty and variability for a certain confidence level associated with a specific number of data points." "[T]he t-score changes drastically from sample size equal to 2 to sample size equal to 3. The changes in the t-score are considerably less dramatic as the sample size approaches 9 data points and larger."[67] EPA further acknowledges that the t-score (*i.e.*, the confidence associated with the number of data points in the MACT pool) is just one of several considerations with regard to representativeness of a data set:

> Regardless of the distribution of the data, UPL equations have three well-defined components: an average, the t-score and a measure of variability that includes the actual variability of the data, the sample size, and the number of data points that are averaged together to determine compliance with a particular emission limit.[68]

Nevertheless, in its approach to applying a UPL to limited datasets, EPA does not provide a fulsome explanation beyond conclusory statements as to why it determines "that no changes to the standard floor calculation procedure were warranted for this pollutant and category."[69]

Variables that may impact the BF casthouse baghouse results could be the clay used to plug the taphole because each cast the taphole is drilled open, through the clay and then plugged once casting is over with the clay. Any flame suppression used on the casthouse floor that would also be captured by the baghouse system. Among other factors, material inputs to the blast furnace would change the outputs/emissions from the iron flowing out of the taphole. Additional and new casthouse control device HCl stack test results in the data Industry Commenters submitted with these comments in Appendix L, as discussed below, also indicate that EPA's proposed MACT standard does not fully account for variability as 9 out of 15 results would exceed EPA's proposed limit and if those additional data were included in EPA's UPL calculation, the resulting UPL would be higher than EPA's proposed THC and HCl limits for BF Casthouse Control Devices, as shown in Appendix J and subsection G, below.

Since the proposal relies on insufficient data for the BF Casthouse Control Device limits, at a minimum, the proposed standards must be adjusted upward to account for the variability that is inherently lacking from the small dataset underlying EPA applied UPL approach.

[65] EPA-HQ-OAR-2002-0083-1470, at 8, tbl. 1.
[66] EPA Approach for Applying the UPL to Limited Datasets, at 9-10.
[67] *Id.* at 4-5.
[68] *Id.* at 2.
[69] *Id.* at 9-10.

Table VII-2 – Summary table of deficiencies in EPA's proposed BF Casthouse Control Devices MACT limits

HAP	Insufficient No. of Data Points[a,c]	Insufficient No. of Tests[a,c]	Lack of Variability in Dataset[c]	Technological Feasibility & Compliance Demonstration Concerns[b,c]
THC	X	X	X	X
HCl	X	X	X	X

[a] All insufficiency designations in this table are based on EPA's prior statements about data used for emissions standard setting and are not representative of Industry Commenters' agreement on the sufficiency of data underlying limits not designated as insufficient in this table.
[b] Technological feasibility and compliance demonstration concerns are presented further in these comments.
[c] New sources have even more limited datasets based on the available data from the single best performing source, and the technical feasibility issues, discussed below, are even greater with the lower limits EPA proposes for HCl and THC from new BF Stoves.

F. BOPF Primary Control Devices (THC, D/F, and HCl).

EPA proposes three new HAP limits for THC, D/F, and HCl for BOPF Primary Control Systems. In the process, pig iron from the BFs along with scrap metal is loaded into the BOPF vessels to produce steel. Flux is added to collect oxides and to reduce the sulfur and phosphorus content of the metal. BOPFs inject high purity oxygen into the pig iron and scrap metal mixture to reduce the carbon content to acceptable levels for steel. When the process is complete, the molten steel flows out of a tap into a ladle for additional processing or casting. Testing results consistently have shown that only trace amounts of D/F, THC, and HCl are emitted from BOPF Primary Control Devices, which was confirmed by the 2022 ICR testing results. In its proposal, EPA estimates industrywide BOPFs emit a total of 3.6 *grams*/yr of D/F, 13 tpy of THC (as a surrogate for organic HAP other than D/F), and 200 tpy of HCl.[70]

1. EPA should not finalize its proposed D/F and HCl limits for BOPF Primary Control Devices Due to Compliance Assurance and Technological Feasibility Issues.

EPA's proposed new source and existing source D/F limits for BOPF Primary Control Devices are not representative of current performance due to the frequency of near BDL or below DL results. Due to the high frequency of testing results near or below detection levels, represent 3 x the representative detection level (3xRDL) rather than a standard based on a UPL. While potentially less imprecise than a UPL formula, the 3xRDL D/F limit that EPA proposes is still at least 10 to 15 percent too low according to EPA and the scientific community and, does not account for the

[70] 88 Fed. Reg. at 49,417, Table 4.

insufficiency of the limited dataset underlying these limits, both discussed above. Because EPA knows that an imprecision of 10 to 15 percent exists in the RDLs, EPA should adjust its proposed limits for D/F upwards by at least 15 percent. EPA should apply additional techniques to account for the data variability lacking due to the limited dataset size.

Furthermore, when comparing the six test runs to one third of the EPA-developed representative detection limits, *all* of the D/F test runs that EPA relies on for its MACT floor are BDL. Thus, EPA should not set a numerical standard for D/F from BOPF Primary Control Devices because *all* of the test run results are below the representative detection limit (as shown in Figure VII-5) – indicating that D/F is not emitted, or if emitted, only in trace amounts. This is consistent with the proposal's estimated total D/F emissions figure. Based on EPA's estimates, 70% of D/F emissions from the source category are at the sinter/recycling plants, which are already subject to VOC and oil content limits. Only 3.6 g/yr of D/F is potentially emitted from BOPF Primary Control Devices industrywide, which is less than 1 gram per year per source using upper-end conservative estimates.

Likewise, EPA proposes an HCL limit for new sources that it purports represents 3xRDL (rather than a calculated UPL).[71] EPA should adjust its proposed limits for D/F upwards by at least 15 percent due to the known imprecision in the 3xRDL value that it presents. EPA should apply additional techniques to account for the data variability lacking due to the limited dataset size.

Because the RDL value EPA has calculated generally represents the average value which instrumentation can measure a pollutant, all of the D/F concentrations in the underlying data being under that RDL value indicates that facilities may not be able to demonstrate compliance, let alone be able to control for such low concentrations. Emission control devices cannot capture pollutants below certain minimum concentrations, as discussed in detail, below. Given these technological feasibility issues, EPA should propose a pollution control technique, such as a work practice, rather than numerical standards for D/F, if the agency nevertheless pursues a limit.

[71] *See* EPA II&S MACT Calculations, Cost Impacts, and BTF Cost Impacts Mem., at 19, tbl. 23 (providing RDL values).

Figure VII-5 – Comparison of 2022 ICR D/F Testing Results for BOPF Primary Control Devices to the Converted 3xRDL value

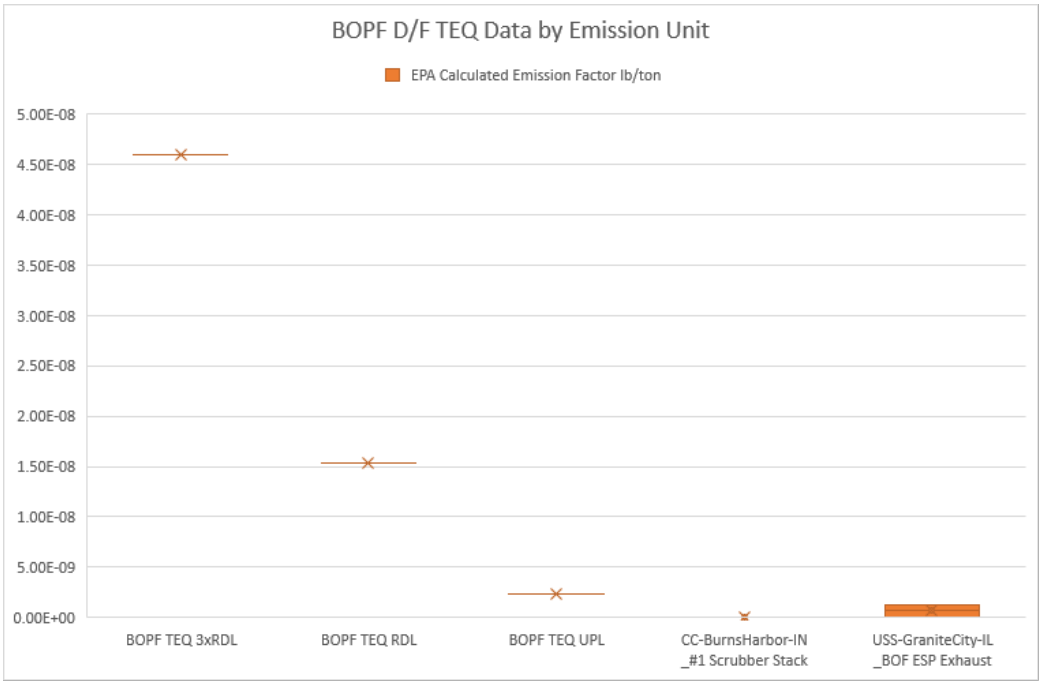
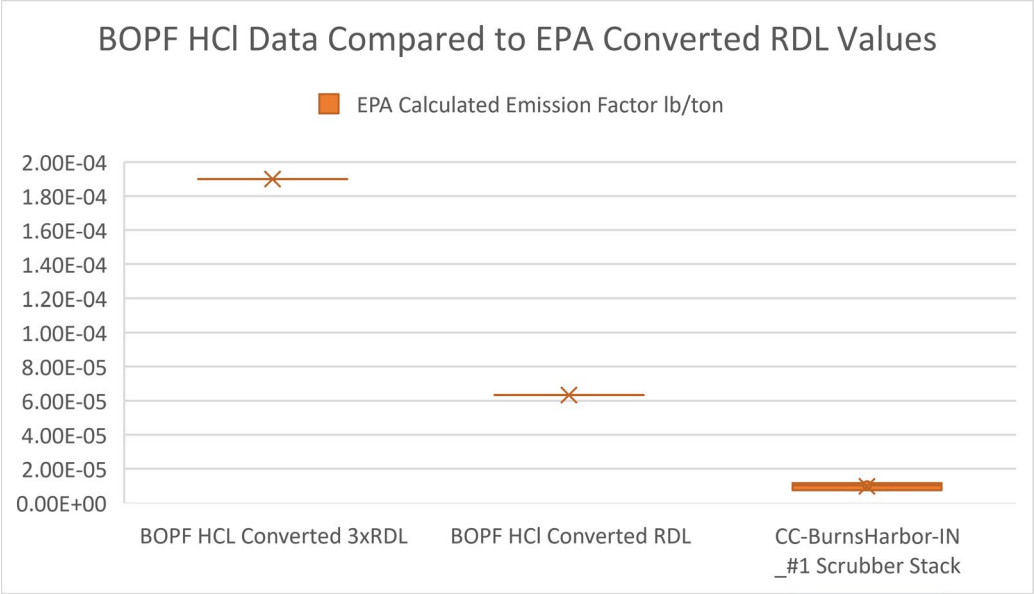


Figure VII-6 – Comparison of 2022 ICR HCl Testing Results for BOPF Primary Control Devices to the Converted RDL Value



2. The proposed emission limits are based on inadequate data and/or floor-setting analyses.

EPA uses insufficient data in setting its proposed limits for BOPF Primary Control Devices. As explained above, MACT limits must be representative of what is achieved by the best-performing units across the range of operations, processes, and seasons to account for the variability.

For HCl, EPA relied on a total 6 runs for 2 BOPF primary control devices:	• 1 test result (3 runs) for the BOPF primary control device (ESP) at the Granite City facility • 1 test result (3 runs each) for the BOPF primary control device at the Burns Harbor facility
For THC, EPA relied on a total 6 runs for 2 BOPF primary control devices:	• 1 test result (3 runs) for the BOPF primary control device at the Braddock facility • 1 test result (3 runs) for BOPF primary control device (ESP) at Granite City facility
For D/F, EPA relied on a total of 6 runs for 2 BOPF primary control devices):	• 1 test result (3 runs) for the BOPF primary control device (ESP) at the Granite City facility • 1 test result (3 runs) for the BOPF primary control device at Burns Harbor facility

Yet, EPA uses only 2 tests to set its proposed BOPF Primary Control Device limits, which EPA admits "are insufficient to generate a meaningful characterization of emission control levels that can be achieved under varying process conditions over time."[72] For instance, the limited data set upon which EPA relies does not account for the variation in amount of chorine in raw material feed for the BOPF which influences potential HCl emissions. Even scrap for use in the BOPF from the same supplier varies from bucket to bucket and location to location. While scrap is sampled to ensure it meets general specifications, each bundle and associated HAP emissions can vary significantly in composition. With regard to process variability, there are hundreds of different steel grades that can be produced by BOPFs, and each of these grades may have their own emisssions variability. For instance, production of different grades of steel require different amounts of flux and other additives for each heat and may need to process longer or shorter among other variables, which can impact all emissions generated by the BOPF. Further, The variability in raw materials including steel scrap and molten iron from the blast furnace (a function of iron ore, limestone, and coke) adds to the uncertainty in the existing dataset.

At a minimum, the proposed standards must be adjusted upward to account for the variability that is lacking from reliance on such a small dataset.

Even if the data were considered to be sufficient, the proposed limits were not appropriately derived from *available* data. EPA's assertion that BOPFs have similar processes has led to incorrect presumptions and, as a consequence, flawed conclusions. BOPF design and operation at II&S facilities vary significantly. They vary significantly, in part due to the technologies that

[72] 68 Fed. Reg. at 27,657.

developed as the infrastructure for given plants was installed. Thus, design aspects of BOPFs may be different and these differences are part of the inherent structure of the BOPF that cannot be altered absent fundamental changes in design. For example, some BOPFs have an open hood design where air is drawn into the hood, and others use closed hood designs that fit closely against the furnace mouth and route emissions through ducts to control devices. These aspects cannot simply be changed, which means that EPA needs to treat them differently in determining MACT floors.[73] BOPFs can also be top-blown or bottom-blown. Accordingly, in the NESHAP, EPA established separate standards based on BOPF design. Open and closed combustion designs have require different testing durations, with open BOPF testing over the complete steel production cycle and closed BOPF testing only during the oxygen blow portion of the heat. In addition, there are hundreds of grades of steel that can be produced at BOPF shops. Each of these grades may have their own emissions variability.

In addition to the limited dataset EPA relies on, as noted above, Industry Commenters submit additional test results for agency review. When included in a UPL calculation these data result in higher UPL values than EPA's proposed THC and HCl limits for BOPF Primary Control Devices, as detailed in subsection G, below.

3. Without explanation, EPA used a skewed template when data distribution calls for a lognormal template to set more stringent D/F and HCl MACT standards.

EPA uses either a normal, lognormal or skewed UPL template for its UPL calculations based on distribution of the dataset. Data inputs are entered into the template, and the template indicates the data distribution. In the case of EPA's proposed D/F and HCl limits, when data is input, the dataset EPA used is identified as "lognormal."[74] Yet, in its development of D/F and HCl standards, EPA appears to have recalculated a UPL value using a skewed distribution UPL template after the result of its lognormal UPL calculation resulted in a ratio of the UPL value-to-the average of the data points in the MACT floor pool that was greater than 15. The D/F and HCl UPL values EPA calculated using the skewed UPL distribution template were orders of magnitude *lower* than what the UPL values would have been when using the lognormal UPL template – which the distribution of the underlying data had called for.

In the case of the BOPF Primary Control Device D/F, when EPA then compared its lower UPL value that was based on the skewed UPL distribution template to a converted 3xRDL value, the 3xRDL was greater, resulting in EPA proposing a MACT standard based on a converted 3xRDL value. Had EPA used the UPL value from the lognormal distribution template, the UPL value would have greater and, therefore, EPA would have selected a UPL value (rather than the converted 3xRDL value) as its proposed limit.

EPA has not been consistent with this approach. For instance, when EPA calculated the D/F UPL for BF Stoves, it *did not opt* to re-calculate the UPL value using the skewed template when the

[73] *See, e.g.,* 40 CFR Part 63, Subpart DDDDD (EPA set floors based on different types of boiler design in the Industrial, Commercial, and Institutional Boilers and Process Heaters NESHAP).
[74] *See* EPA II&S MACT Calculations, Cost Impacts, and BTF Cost Impacts Mem., at 13, tbl. 18

lognormal template produced a ratio the UPL value-to-the average of the data points in the MACT floor pool that was greater than 15. And, EPA also continued to use a lognormal distribution template (rather than opting for using a skewed distribution template) for its THC for BF Stoves when the lognormal UPL ratio was 17 (*i.e.*, >15) when compared to the average of the data in the MACT floor pool.

As discussed above, EPA has not explained why it deviated from the lognormal template or why it only did so in select cases. More importantly, EPA has not explained why its approach would result in a MACT standard that would be more representative of the data set. This is of particular concern to Industry Commenters because one of the facilities in the MACT floors pool is the largest in North America; therefore, the higher UPL that resulted with the use of the lognormal template may properly account for the variability experienced by this point source. (Industry Commenters also note that EPA's UPL workbooks have the wrong units (lb/ton iron) when it should be lb/ton steel for the BOPF Primary Control Devices.)

a. EPA should not finalize its proposed THC limits for BOPF Primary Control Devices.

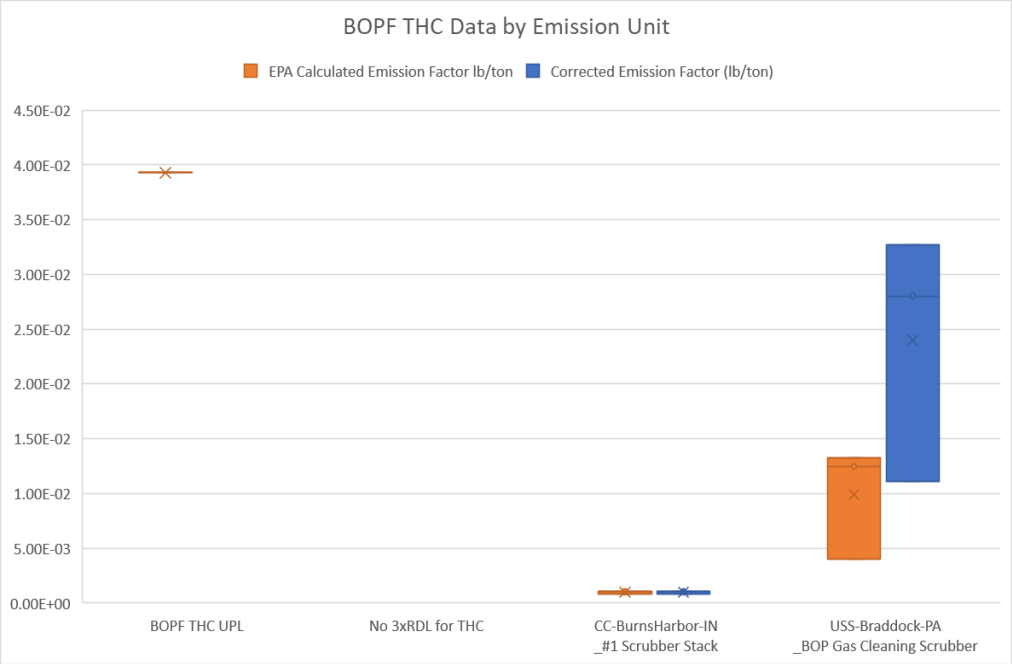
EPA's proposed limit for THC from BOPF Primary Control Devices is unnecessary as the 13 tpy of THC from the BOPF Primary Control Devices makes up just 2.7% percent of the total THC emissions at issue in this rulemaking (483 tpy), based on EPA's conservative upper-end assumptions. The proposed limit is problematic because THC is not a HAP and has been proposed by EPA as a surrogate for organic HAP, absent any speciated justification to establish THC as a proper surrogate for THC this industry. As EPA did not request speciated testing results, the makeup of these elevated readings is unknown. Compounding the issue, the limited THC dataset from only 2 tests on which EPA relies shows almost nothing except for spikes in data. Method 25A, which was used to measure THC concentrations, is a continuous analyzer; therefore, EPA received metadata for continuous monitoring that showed consistent approximate readings of a few parts per million (i.e., essentially zero) followed by short-term (approximately 1- to 2- minute) elevations. In other words, THC emissions remained below detection limits (BDL) except for short duration castration spikes during tests. Yet, EPA proposes to rely on these momentary spikes as evidence of "THC" emissions. The potential drivers for these anomalous THC spikes, such as potential contaminants, cannot be evaluated without speciated results. When considering potential for future similar short-term spikes, the highest potential concentration is impossible to predict and therefore EPA's reliance on this limited dataset as representative of anticipated THC emissions is not reasonable.

b. If EPA proceeds with the proposed limits, EPA must correct its proposed THC limits.

EPA only requested specific test results from Industry Commenters in 2022 and did not request the corresponding production values. Industry Commenters have provided comprehensive responses to EPA's 2022 ICR and timely supplemental information when requested from the agency. Instead of requesting the corresponding production values from Industry Commenters, EPA mixed and matched data. As a result, the proposed THC emissions for BOPF Primary Control Devices were grossly underestimated, and therefore the proposed limits do not represent the

performance of any unit, let alone best performers, as shown in Figure VII-7. Industry Commenters provided production rate data to EPA on May 26, 2023.[75] Instead of finalizing unrepresentative standards, EPA should use the 2022 production values to revise its proposed THC limits.

Figure VII-7 – Comparison of 2022 ICR THC Testing Results for BOPF Primary Control Devices Using Corrected Emission Factors



[75] *See* Email from S. Fruh, U.S. EPA, to P. Mulrine and H. Key, U.S. EPA, on U. S. Steel email regrading additional production and heat input information (May 25, 2023), EPA-HQ-OAR-2002-0083-1346.

Table VII-3 – Summary table of deficiencies in EPA's proposed BOPF Primary Control Device MACT limits

HAP	Insufficient No. of Data Points[a,c]	Insufficient No. of Tests[a,c]	Lack of Variability in Dataset[c]	Includes Significant % of BDL Tests Runs[a,c]	Includes Imprecision of 15% or more	Errors of Significance in EPA Calculation	Technological Feasibility & Compliance Demonstration Concerns[b,c]
THC	X	X	X	X	---	Production data and emission factor errors	X
D/F	X	X	X	X	X	Existing source limit based on skewed UPL	X
HCl	X	X	X	---	X (new source limit only)	---	X

[a] All insufficiency and BDL designations in this table are based on EPA's statements about data used for emissions standard setting and are not representative of Industry Commenters' agreement on the sufficiency of data underlying limits not designated as insufficient in this table.
[b] Technological feasibility and compliance demonstration concerns are discussion further in this section.
[c] New sources have even more limited datasets based on the available data from the single best performing source, and the technical feasibility issues presented below in these comments are even greater with the lower limits EPA proposes for HCl and THC from new BF Stoves.

G. Industry Commenters Submission of Additional Data

EPA " welcomes the submittal of more test data from stakeholders, as soon as possible, to further inform the development of appropriate MACT limits for the final rule."[76] Industry Commenters are submitting as Appendix L to these comments stack test reports that EPA must consider, covering: BF casthouse control device (HCl and THC); BOPF (D/F, HCl and THC); and BF stove (D/F, HCl and THC).[77] Specifically, Industry Commenters' consultants have developed UPL calculations by combining EPA's dataset with data from these additional stack test reports, resulting in the MACT standards shown in Table VII-4. When analyzing the additional data combined with EPA's underlying dataset, the Industry Commenters calculated UPLs higher than the proposed MACT standard, except for those highlighted in gray. Industry Commenters do not purport that the additional data submitted in Appendix L alone (or in combination with data underlying EPA's proposed standards) capture the full range of operating conditions for these point sources; however, these additional data further indicate that EPA's limited datasets do not sufficiently account for variability and, therefore, are not representative of best performing units in this source category.

[76] 88 Fed. Reg. at 49,417.
[77] The additional stack test reports include new stack tests and emissions factor development tests. While emissions factor development tests are not the same as stack tests performed for compliance purposes, all of the additional tests were performed using testing methodologies that are consistent with those set forth in the 2022 ICR.

Industry Commenters propose that EPA review these additional data and adjust their proposed MACT standards accordingly.

Table VII-4 – Industry Commenters Recalculated MACT Floor Calculations Including Additional Data in Appendix L

Process	HAP	Basis for MACT Limit	Existing Sources PROPOSED MACT Limit	Existing Sources Recalculated UPL w/ Additional Data	Units	Recalculated UPL Template
BF CH-CD	HCl	UPL	1.30E-03	2.51E-02	lb/ton iron	Lognormal
BF CH-CD	THC	UPL	9.20E-02	4.32E-01	lb/ton iron	Lognormal
BOPF	TEQ	3xRDL	4.70E-08	2.24E-09	lb/ton steel	Lognormal
BOPF	HCl	UPL	7.80E-02	1.97E+00	lb/ton steel	Lognormal
BOPF	THC	UPL	4.00E-02	2.99E-01	lb/ton steel	Lognormal
BF Stove	TEQ	3xRDL	3.80E-10	8.64E-11	lb/ton iron	Lognormal
BF Stove	HCl	UPL	5.20E-04	2.37E-03	lb/ton iron	Normal
BF Stove	THC	UPL	1.00E-01	2.63E-01	lb/ton iron	Lognormal

H. Sinter/Recycling Plants (D/F And PAHs)

A sinter/recycling plant is defined as "the machine used to produce a fused clinker-like aggregate or sinter of fine iron-bearing materials suited *for use in a blast furnace*."[78] The sinter product contains recycled iron units that are used as a raw material in the blast furnace.[79] EPA has explained that sinter/recycling plants act as recycling units at II&S manufacturing facilities; "the sinter plant processes the waste that would otherwise be landfilled so that iron and other valuable materials can be re-used in the blast furnace."[80] More specifically, per EPA, "[s]intering is a process that recovers the raw material value of many waste materials generated at iron and steel plants that would otherwise be landfilled or stockpiled. An important function of the sinter plant is to *return* waste iron-bearing materials to the blast furnace to produce iron. Another function is to provide . . . flux material (*e.g.*, limestone, dolomite, scrap) for the ironmaking process."[81] Sinter/recycling plants prevent large tonnages of waste materials from entering landfills and conserve natural resources by reducing mining of virgin iron ore. As such, these operations are more properly characterized as "recycling plants." Sinter/recycling plants continue to provide recycling benefits today. The two sinter/recycling plants in operation today do not operate the same as sinter plants of the past. Previously, sinter plants were used to fuse high-grade virgin iron ore for use in blast furnaces. Now, iron is extracted from taconite iron ore deposits. Taconite iron ore pellets do not require sintering prior to feeding the material to a blast furnace. With the advent, and increasing use, of taconite ore concentrate pellets in place of the prior practice of sintering ore, sinter/recycling plants now serve to recycle and recover lost iron units.

EPA proposes to *revise* existing standards for control of dioxin/furan (D/F) and polycyclic aromatic hydrocarbons (PAH) for sinter/recycling plants purportedly under the technology review provided for in Section 112(d)(6).[82] Emissions of both D/F and PAH are already regulated in the current NESHAP, which provides that "the sinter plant oil content limit of the feedstock to the sinter plant and/or the volatile organic compounds (VOC) emission limit from the windbox exhaust stream are surrogates for the dioxin/furans and PAH emissions for sinter plants."[83] In compliance with regulations, existing sinter/recycling plants monitor VOC through the use of continuous emissions monitoring systems (VOC CEMS). EPA now proposes individual numeric limits: 3.50E-08 lb/ton of sinter for D/F and 5.90E-03 lb/ton of sinter for PAHs. (Notably, using EPA's own assumptions, there is a ***rounding error*** in the proposed D/F limit as 3.55E-08 lb/ton of sinter would round up to 3.60E-08 lb/ton of sinter).

In its original NESHAP, EPA explained that "[t]he HAP emitted by integrated iron and steel manufacturing facilities include . . . *trace amounts* of organic HAP (such as polycyclic organic matter . . . ."[84] In 2011, EPA sent an information collection request (ICR) to II&S facilities seeking stack test data for PAH and D/F, among other information. Those 2011 ICR testing results also confirmed that only trace amounts of PAHs and very low amounts of D/F are emitted from

[78] 40 C.F.R. § 63.7852 (emphasis added).
[79] 2001 EPA BID, at p. 3-4, fig. 3-1 (showing sinter plant process leads to the BF stove).
[80] 88 Fed. Reg. at 49,407.
[81] 2001 EPA BID, at 3-1.
[82] *See* 88 Fed. Reg. at 49,417.
[83] *Id.* at 49,418.
[84] 97 Fed. Reg. at 27,646.

sinter/recycling plants. For instance, based on 2011 ICR testing data, EPA reported total emissions of PAH from the three facilities with sinter/recycling plants was 1.97 tons per year, and the total emissions of D/F was 0.15 pounds per year (or 68 *grams* of D/F TEQ).[85] EPA's 2011 ICR data and UPL calculations include 170 datapoints for individual PAH compounds which make up Total PAH, and 52 of those datapoints are flagged as below detection limit (BDL),[86] while another 13 of the them are flagged as Detection Level Limited (DLL). EPA's emissions estimates from data collected as part of its 2011 ICR indicate actual emissions of D/F TEQ from three facilities with sinter/recycling plants were even lower, at 9.1 *grams* per year,[87] a nearly 70 percent reduction from 2001 levels,[88] which could be even lower when accounting for the idling of the Indiana Harbor East sinter plant.

In 2018, AISI informed EPA that, when using corrected data, all of the combined point source category risk, including sinter/recycling plant D/F and PAHs emissions is *less than 1 in a million*, as further detailed in Section II.[89] In its 2020 residual risk and technology review (RTR) final rule, even when using uncorrected (and therefore overestimated) emissions estimates, EPA still concluded that:

> [T]he cancer risk for the highest exposed individual to be 40-in-1 million (due to dioxins/furans emissions from sinter plants) and the maximum chronic noncancer hazard quotient (HQ) to be less than 1 for all the persistent and bioaccumulative HAP. Based on the results of the environmental risk screening analysis, *we do not expect an adverse environmental effect as a result of HAP emissions from point source emissions from this source category*.[90]

These corrected and uncorrected risks estimates would be less today because, since 2022, Indiana Harbor East's sinter plant, with the largest number of operating hours, has been indefinitely idled.

Compared to other sources of emission across the nation, sinter/recycling plants emit less than 2.6% of PAHs and 0.6% of D/F nationwide. For PAHs and D/F in particular, the Clean Air Act does not require 100 percent reduction:

> With respect to alkylated lead compounds, polycyclic organic matter, hexachlorobenzene, mercury, polychlorinated biphenyls, 2,3,7,8-tetrachlorodibenzofurans and 2,3,7,8-tetrachlorodibenzo-p-dioxin, the Administrator shall, not later than 5 years after November 15, 1990, list categories and subcategories of sources assuring that *sources accounting for not*

[85] *See* EPA's Memo "Integrated Iron and Steel Risk and Technology Review: Point Source Data Summary," at app. B, tbl. B-1 (May 1, 2019) (providing 2012 total point source emissions) ("EPA II&S RTR Point Source Data Summary"), EPA Docket No. EPA-HQ-OAR-2002-0083-0955.
[86] *See* EPA II&S RTR Point Source Data Summary, app. B; EPA UPL Workbook, Attachs. 1-11 (providing UPL calculations), EPA Docket No. EPA-HQ-OAR-2002-0083-1504
[87] *See* EPA II&S RTR Point Source Data Summary Mem., at app. B (summing of Total TEQ/Dioxin/Furan emissions in "Actual_Emissions_TPY" column from four sources in Emission Database Tab).
[88] 2001 BID, at p. 3-9.
[89] *See* E-mail from P. Balserak, AISI, to C. French and D. Jones, EPA (May 14, 2019, 08:18 EDT), EPA Docket No. EPA-HQ-OAR-2002-0083-0899.
[90] 85 Fed. Reg. at 42,082 (emphasis added).

> *less than 90 per centum of the aggregate emissions of each such pollutant* are subject to standards under subsection (d)(2) or (d)(4).[91]

As further discussed below, changes to the existing MACT standards are neither necessary nor required under *LEAN*, and are based on flawed data and analysis regardless. Therefore, EPA's proposed revisions to existing standards for control of D/F and PAH should be withdrawn from the final rule.

1. Existing volatile organic compound (VOC) and oil-content standards sufficiently limit PAH and D/F emissions from sinter/recycling plants.

After determining that sinter/recycling plants' current control systems—baghouses and venturi scrubbers—would be ineffective in capturing D/F or PAHs,[92] EPA promulgated VOC and oil-content surrogate limits for PAHs and D/F that would better control PAHs and D/F for this source. When EPA subsequently conducted its risk and technology review in 2020, it confirmed that using VOC and oil content as surrogates for D/F and PAHs was appropriate, finding that "risks due to emissions of air toxics are acceptable from this source category and that the current NESHAP provides an ample margin of safety to protect public health. Under the technology review, [EPA] found there are no developments in practices, processes or control technologies that necessitate revision of the standards."[93]

Twenty years after establishing the MACT standard for D/F and PAH and only three years after recently confirming the original MACT, EPA now proposes, pursuant to Section 112(d)(6), to set or specific numerical limits for D/F and PAH directly and no longer rely on the lawful oil-content and VOC limit surrogates.

EPA has based the proposed upper prediction limit (UPL) calculation underlying its proposed limits on information it received in response to its 2011 ICR. As explained below, that data – which data EPA received in 2012 – certainly do not constitute a development within the meaning of CAA Section 112(d)(6). First, the mere generation of data reflecting a potential change in emission rates does not necessarily constitute a development in control technology, processes, or practices, as subparagraph (d)(6) specifies. Second, in this particular case, EPA already had the same data during its 2020 RTR, data that (appropriately) did not prompt any changes to the standards. Thus, the most recent test data that EPA relies on for these proposed rules do not represent any sort of development because what the dataset reflects is in no way new.

EPA is unable to point to anything that shows that the use of VOC and oil-content limits as surrogates is no longer appropriate for sinter/recycling plants, much less that it is now necessary for EPA to revise how it regulates D/F and PAHs. In fact, the strong correlation between VOC

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[91] 42 U. S.C. § 7412(c)(6) (emphasis added).

[92] The add-on emission controls used by units in the category (baghouses and venturi scrubbers) do not control vapor -phase organic compounds. Baghouses control particulate matter (PM), and venturi scrubbers primarily control PM. Because scrubbers use water, there is some degree of control for vapor-phase compounds that are water soluble, such as vapor phase acid gases (HCl or HF); however, in comparison, PAH and D/F are not nearly as water-soluble.

[93] 84 Fed. Reg. at 42,704.

and D/F is widely accepted.[94] EPA is not under a time constraint to complete this discretionary action because there is no gap to fill under *LEAN* with regard to PAH and D/F emissions from sinter/recycling plants. Thus, what EPA has proposed here is arbitrary and capricious.

Without sufficient legal grounds or technical information, establishing numeric D/F and PAH emission limits is not only unnecessary under *LEAN* but also unreasonable. Should EPA nonetheless continue to pursue a path of establishing separate D/F and PAHs limits for sinter/recycling plants, any limits issued must be adjusted upward to account for variability inherently lacking in the limited dataset used to establish proposed standards. EPA must also verify the level of emissions it purports to be achievable with existing controls, controls and actions needed to comply with its proposed limits, and the costs of compliance.

2. EPA states that it is exercising its discretionary authority under Section 112(d)(6) to revisit the limits applicable to D/F and PAH, and thus the agency faces no time constraints or requirements under *LEAN v. EPA*.

EPA is under no obligation to abandon the surrogate limits that it put into place for D/F and PAH, much less to do so on the rushed schedule it is pursuing. The *LEAN* decision is limited to gap-filling efforts for unregulated pollutants, obligating EPA to address unregulated emissions from a major source category when the agency conducts the eight-year technology review required by CAA Section 112(d)(6).[95] EPA should withdraw, or at a minimum defer, its proposed revisions to existing standards for emission of D/F and PAH from sinter plants because they are not required under *LEAN*. These HAPs are already regulated under the existing MACT. At a minimum, EPA should not be adding to its burden non-*LEAN* elements. Because of issues with the proposed D/F and PAH limits (as explained below), they should be withdrawn and not finalized with the *LEAN*-compelled rule revisions.

3. Because EPA already regulates D/F and PAH emissions from sinter/recycling plants via surrogacy and made no finding otherwise, regulating via surrogacy remains the best approach.

a. EPA appropriately determined that oil-content and VOC limits should be used as a surrogate to regulate D/F and PAH emissions from sinter/recycling plants.

When EPA promulgated the initial MACT standards in 2003, it explained that the VOC surrogate was preferential to "[a]n emission limit for individual organic compounds . . . because the emission controls that are used do not effectively control all organic HAP. Conventional control systems used for organics, such as incineration or carbon adsorption, would not be practicable because they are ineffective at the very low concentration (parts per million levels) in the windbox exhaust

[94] European Commission, JRC Reference Report: European Commission Best Available Techniques (BAT) Reference Document for Iron and Steel Production, at 108 (2013) (analyzing the formation mechanisms of D/F and explaining "[o]verall, it should be stated that the direct correlation of the amount of organics is linked to the appearance of VOC and this again has a strong correlation with the PCDD/F concentration.").
[95] *See LEAN v. EPA*, 955 F.3d 1088 (D.C. Cir. 2020).

stream"[96] EPA explained that "[t]here is strong evidence that demonstrates that the quantity of organic HAP emitted is directly related to the quantity and oil content of the mill scale component of the sinter feed."[97]

When establishing the original NESHAP, EPA considered, among other things, "information from two U.S. sinter/recycling plants that show[ed] VOC emissions increase as oil content increases, and the VOC contains volatile HAP such as benzene" and considered the fact that "plants in Indiana control VOC emissions by limiting the amount of oil in the sinter feed." The agency explained that, "[b]ecause the two are related, Indiana allows monitoring oil content as an alternative to VOC monitoring. In the past, sinter/recycling plants with baghouses have voluntarily limited oil content because the organic compounds that were emitted tend to condense and blind the bags as well as pose a fire hazard. We believe these studies conclusively show that oil content correlates with organic emissions."[98] Therefore, EPA appropriately determined that oil-content and VOC limits should be used as a surrogate to regulate D/F and PAHs emissions from sinter/recycling plants. Nothing has changed to invalidate this analysis.

Industry Commenters note that, although EPA is proceeding under Section 112(d)(6), it must also be mindful that it would be improper to recalculate a MACT standard (using Section 112(d)(2)/(3)) after a MACT standard has already been applied. Congress did not intend for EPA to continually ratchet the MACT standards by conducting a series of new floor analyses whenever the standard is revised. Notably, in its current proposal, EPA does not propose to remove existing VOC or oil content operating limits if it were to finalize its proposed speciated D/F and PAH MACT standards for sinter/recycling plants.[99] As shown in the agency's redline regulation text for the proposed II&S NESHAP amendments, EPA proposes that facilities with sinter/recycling plants would need to comply with both its proposed PAH and D/F MACT standards and either the existing VOC or the oil-content operating limits – which would remain as provisions of the NESHAP and applicable to sinter/recycling plants.[100]

4. EPA should not finalize the proposed amendments to add D/F and PAH emissions limits to existing volatile organic compound (VOC) limits and oil-content limits applicable to sinter/recycling plants because there have been no developments that would necessitate revision, pursuant to CAA Section 112(d)(6).

In its recently proposed amendments, EPA stated that it is proposing to change the way it regulates D/F and PAH emissions from sinter/recycling plants to "improve the emissions standards for this source category based on new information regarding developments in practices, processes and

[96] 68 Fed. Reg. at 27,657.
[97] EPA OAQPS Report, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Plants Background Information for Proposed Standards, at B5, EPA 453R-01-005 (Jan. 2001), EPA Docket No. EPA-HQ-OAR-2002-0083-1122.
[98] 68 Fed. Reg. at 27,657.
[99] *See* EPA, Revised Documentation of Changes Made During OMB Review Under E.O 12866 through June 22, 2023 - Integrated Iron and Steel Regulatory Text (posted on Sept. 12, 2023), EPA-HQ-OAR-2002-0083-1503.
[100] *See id.*

control technologies."[101] As laid out above, EPA did not, however, make a finding that the correlation identified in 2003 between VOC and oil-content limits and D/F and PAH emissions no longer exists—and such a finding would be incorrect.

In its preamble, EPA does not identify any purported development underlying its proposed D/F and PAHs limits explicitly. According to EPA, it proposes to "revise standards for D/F and PAHs from sinter plants to *reflect the performance of current control devices*."[102] The existing operating limits on sinter/recycling plant feedstock oil content or VOC emissions from the sinter/recycling plant windbox exhaust in 40 C.F.R. § 63.7790(d) already limit PAH and D/F emissions from sinter/recycling plants. As EPA has acknowledged, "*[e]mission control devices* applied to sinter plants are designed primarily for the removal of PM and not for the various organic compounds that are formed from the oil."[103] But in its proposal EPA seems to mistakenly attribute existing PAH and D/F emissions control to sinter/recycling plant baghouses. To promulgate the existing VOC and oil-content limits, in 2003, EPA reviewed data from the "simultaneous testing of oil content and VOC emissions [and] correlated the results" to derive that "maintaining the VOC at a level of 0.2 lb/ton [of sinter] or lower will ensure that the operating limit of 0.02 percent oil is maintained."[104] In its 2023 preamble, however, EPA does not mention oil feedstock or VOC concentrations; rather, EPA explains that it reviewed 2012 data collected as part of its 2011 ICR:

> As part of our updates to the CAA section 112(d)(6) review, we analyzed available test data for D/F and PAH from sinter plants. We also evaluated potential emissions limits for D/F and PAHs. First, we developed a regulatory option that reflects the current control technologies and practices (current performance) at the existing sinter plants at the three source category facilities that have sinter plants. *The sinter plants are currently controlled with baghouses or wet scrubbers.* To derive an emissions limit that reflects current controls, we used the UPL approach we typically use for calculation of MACT floor limits (described above in section III.B). Using the UPL method, we calculated an emissions limit of 3.5E–08 lbs/ton of sinter for D/F (TEQ) and an emissions limit of 5.9E–03 lbs/ton for PAHs for existing sinter plant windboxes and limits of 3.1E–09 lbs/ton of sinter for D/F (TEQ) and 1.5E–03 lbs/ton of sinter for PAHs for new sinter plant windboxes.[105]

But EPA knows, as explained in its original NESHAP, that:

> [T]he add-on emission controls used by units in the category (baghouses and venturi scrubbers) *do not control vapor phase organic compounds*. As a result, we believe that the best way to assess current levels of VOC emission control, and to limit such emissions is to rely upon existing methods of pollution prevention. Accordingly, we have established limits on the amount of organic HAP precursor material (specifically oil and grease) that may be in the sinter feed, in order to control emissions of organic compounds. Additionally, section 112(d)(2) of the

[101] 88 Fed. Reg. at 49,404.
[102] *Id.* at 49,405 (emphasis added).
[103] 68 Fed. Reg. at 27,652 (emphasis added).
[104] *Id.* at 27,659.
[105] 88 Fed. Reg. at 49,417.

> CAA specifically allows EPA to establish MACT *standards based on emission controls that rely on pollution prevention techniques*.[106]

Thus, the 2012 performance of current *sinter control devices* is no different than it was at the time of EPA's 2020 RTR less than three years ago, i.e., at-the-stack control devices do not control PAHs and D/F emission from sinter/recycling plants. The 2012 stack test data only confirms what EPA knew and explained in 2002 and 2003: D/F and PAH emissions are well controlled using VOC and oil-content limits as surrogates. Thus, there is no development as contemplated in 112(d)(6). Moreover, the 2012 stack test data underlying EPA's current proposal cannot be a development for the purposes of Section 112(d)(6) because this information was available at the time of EPA's 2020 RTR that took place less than three years ago. In other words, the data that EPA is considering now for sinter/recycling plant D/F and PAHs standards in the 2023 proposed rule is the same data EPA relied upon for its 2020 RTR. After reviewing the 2012 stack test data under its 2020 review,[107] EPA already concluded that "no developments in practices, processes, or control technologies necessitate revision of the standards."[108]

Even where EPA identifies a purported development, the identification of a development alone does not conclude EPA's technology review under Section 112(d)(6). EPA must then perform an "evaluation of developments in practices, processes, and control technologies that have occurred since the MACT standards were promulgated."[109] "The EPA also considers the emission reductions associated with applying each development. This analysis informs [EPA's] decision of whether it is 'necessary' to revise the emissions standards."[110] In other words, a revision must still be necessary for the change to be justified. Here, EPA purports that there will be *no environmental benefits* associated with its revision of existing standards for D/F and PAHs emissions from sinter/recycling plants.[111] In addition, technological feasibility of controlling such low, and frequently undetectable, emissions of D/F and PAH remains an issue, as detailed below. Therefore, the revisions to existing standards that EPA proposed are not necessary, and EPA has not met its burden of demonstrating that a revision of the standards is necessary under Section 112(d)(6). Because existing limits utilize an appropriate surrogate, EPA should withdraw its proposal to establish separate D/F and PAHs limits that it estimates would provide no meaningful benefit yet, as detailed below, would require high-cost new compliance measures.

If EPA nevertheless (inappropriately) proceeds with such numerical limits, it must revise its proposed limits upwards to help to account for known variability and limited datasets.

5. EPA should not finalize its proposed emission limits because they are based on inadequate data and/or floor-setting analyses.

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[106] 68 Fed. Reg. at 27,657.
[107] *See e.g.*, 84 Fed. Reg. at 42,708; *see* EPA II&S Point Source Data Summary Mem. (referring to EPA-HQ-OAR-2002-0083-0955).
[108] 85 Fed. Reg. at 42,074.
[109] 88 Fed. Reg. at 49,409.
[110] *Id*.
[111] *See* 88 Fed. Reg. at 49,417 ("We estimate all three facilities with sinter plants would be able to meet these limits with no additional controls *so there will be no emissions reductions* with these new existing standards.").

EPA claims "we are proposing to . . . revise standards for D/F and PAHs from sinter plants to reflect the performance of current control devices."[112] But this is not what EPA actually proposes, due to its use of inadequate data and errors in its calculation for proposed limits. EPA used the same insufficient dataset to develop its D/F and PAHs limits for sinter/recycling plants. "As part of our [2023] updates to the CAA section 112(d)(6) review, [EPA] analyzed available test data for D/F and PAH from sinter plants." Available test data included sinter windbox emissions of three of the sinter/recycling plants in operation at the time, which was collected over only a brief period time. For example, D/F TEQ testing took place in three months (March, April, and July of 2012.). These three months are not enough to cover the variability that would be reflected in a year's worth of data.

In 2003, EPA declined to use the UPL approach to set emissions limits for the very reason of having limited data sets. During its original NESHAP, EPA explained:

> The only available data regarding organic HAP emissions from these units are from two tests we conducted. These tests are insufficient to generate a meaningful characterization of emission control levels that can be achieved under varying process conditions *over time*, and there is no way to use this emissions test data to identify the best-performing plants.[113]

Instead, EPA applied an "operating limit also applies either to the oil content of the sinter plant feedstock or to the volatile organic compound (VOC) emissions from the sinter plant windbox exhaust stream."[114] To account for limitations in the dataset, EPA should again decline setting standards based on the UPL approach.

6. EPA's beyond-the-floor analysis and evaluation of activated carbon injection as a potential control option for sinter/recycling plants are flawed.

EPA has solicited comments on its cost-effectiveness determination and whether or not EPA should establish a tighter limit based on application of activated carbon injection (ACI). EPA's review of ACI during its 2020 RTR correctly found that the ACI add-on control technology for sinter/recycling plant windboxes would not be cost-effective, even under what Industry Commenters view as EPA's underestimated cost analyses. EPA explained:

> "[C]onsistent with the [its] decisions made in the 2020 RTR final rule as part of our ample margin of safety analysis for D/F in 2020[,]" adding ACI systems to current control devices for sinter plant windboxes for dioxin/furan emissions was not warranted "because of the relatively high capital and annualized costs compared to a relatively low amount of emissions reduced" would not be "considered cost effective.[115]

[112] *Id.* at 49,405.
[113] 68 Fed. Reg. at 27,657 (emphasis added).
[114] *Id.* at 27,647.
[115] 88 Fed, Reg. at 49,418.

Industry Commenters have found several flaws in EPA's cost analysis for sinter/recycling plant D/F control using ACI.

- EPA has incorrectly considered ACI with a wet scrubber as technologically feasible without supporting data or testing from prior applications with similar design specifications (air flows, ducting lengths, D/F concentrations, etc.). In other industries, dry particulate matter (PM) controls, such as baghouses, may provide additional opportunity for the effluent stream to come in contact with activated carbon that builds up on the bags. Industry Commenters are unaware of any application of ACI with a wet scrubber for particulate control being sufficiently demonstrated in practice as a control technology for D/F. Therefore, EPA should not anticipate ACI with wet scrubbers can achieve control efficiencies demonstrated in other industries using dry PM controls.

- EPA assumed a brominated powdered activated carbon (PAC) injection rate of 1.7 lb/MMacf based on 2012 test data from the Gerdau Sayreville, NJ electric arc furnace baghouse that is unproven in the II&S industry. As it is not well understood what control efficiency could reasonably and consistently be achieved in practice without pilot testing in the II&S industry given the unpredictable variation of D/F formation, EPA may be underestimating the required carbon injection rates and associated annualized costs.

- EPA erroneously assumes that no new PM control device for sinter plants would be needed to accommodate ACI, failing to account for the cost of new PM control devices. The application of ACI emits PM, including fine particulate matter ($PM_{2.5}$). The existing PM control devices for sinter/recycling plants are designed to sufficiently control PM to meet existing PM limits (and other provisions of existing Title V limits). They were not designed to both accommodate additional PM from the dust loading that would be caused by ACI *and* maintain facilities' compliance with existing limits, especially given EPA's proposal for even more stringent National Ambient Air Quality Standards (NAAQS) for $PM_{2.5}$.[116]

- EPA's cost-effectiveness analysis fails to consider more general engineering principles that support lesser control efficacy when applying ACI to sinter/recycling plants in this industry in comparison to efficacy that may be demonstrated in other industries. For instance, existing ductwork at sinter/recycling plants may not provide sufficient residence time for activated carbon to adsorb D/F which would result in lower control efficiencies for II&S sinter/recycling plant applications than what may be demonstrated in other industries. EPA also cannot assume that there are suitable locations for ACI. Thorough engineering evaluations and pilot testing would be needed to determine whether there are any locations for ACI at a given plant and feasible control efficiencies.

[116] *See* EPA, Reconsideration of the National Ambient Air Quality Standards for Particulate Matter; Proposed Rule, 88 Fed. Reg. 5558 (Jan. 27, 2023).

- EPA's presumed D/F control efficiencies of 90%[117] and 98%[118] with ACI in its Regulatory Impact Analysis are not supported by relevant testing data and remain unproven for sinter/recycling plants.[119] If EPA is overestimating D/F control efficiencies, that would lead to underestimated cost-effectiveness values for ACI, meaning ACI appears more cost-effective than it should in EPA's existing analysis.

EPA is significantly underestimating the total capital and annualized cost of ACI and should recalculate its estimates.

- EPA did not, yet it must, seek quotes or other current pricing information for ACI systems, installation, utility, reagent, labor, and other operating cost categories to reflect more accurate capital and annual operating costs. For instance:

    - Recently, vendors have estimated ACI system costs (not including new PM controls or installation costs) of approximately $550,000 for other projects requiring similar injection rates, whereas EPA used $240,000.

    - EPA used a standard activated carbon cost of $0.75 per pound from 2013, an underestimated value for the expected carbon costs because it was not adjusted for inflation. For another rule, in May of 2023, EPA used a cost of $1.02 per pound of brominated powdered activated carbon (PAC),[120] and Industry Commenters received quotes from PAC vendors in 2023 of $1.90 per pound—more than double EPA's assumed rate of $0.75. Scaling the 2023 vendor estimate with the same cost ratio between brominated and standard activated carbon from EPA's reference[121] produces a more realistic cost for standard activated carbon of $1.50 per pound.

    - For labor rates, EPA generically assumed a cost of $29.44/hour and stated "BLS, 2023" with no additional supporting detail; however, the union labor rates in the goods-producing industries published by the U.S. Bureau of Labor Statistics (which as of March 2023 is $54.13 per hour) provide a more reasonable assumption.

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[117] *See* EPA, Regulatory Impact Analysis for the Proposed National Emission Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing Facilities Technology Review (June 2023), at p. 3-16 to 3-17, EPA-452/R-23-004, EPA Docket No. EPA-HQ-OAR-2002-0083-1452.

[118] *See* Memorandum from Donna Lee Jones, U.S. Environmental Protection Agency; Gabrielle Raymond, RTI International, to Integrated Iron and Steel (II&S) Residual Risk and Technology Review (RTR) Project File on Ample Margin of Safety Analysis for Point Sources in the II&S Industry (March 1, 2020), ("EPA 2020 AMOS Memorandum"), EPA Docket No. EPA-HQ-OAR-2002-0083-1086.

[119] EPA references the 1994 rulemaking for medical waste incinerators (EPA-HQ-OAR-2004-0213) to justify its control efficiency. However, medical waste incinerator D/F concentrations are highly variable and dependent on tail-end pollution controls. EPA should not simply assume observed control efficiencies from medical waste incinerators would be directly applicable to II&S sinter/recycling plants.

[120] *See* National Emission Standards for Hazardous Air Pollutants: Taconite Iron Ore Processing Amendments; Proposed Rule, EPA Docket No. EPA-HQ-OAR-2017-0664.

[121] *See* Sargent & Lundy, LLP, IPM Model – Updates to Cost and Performance for APC Technologies: Mercury Control Cost Development Methodology, at 14 (Jan. 2017), https://www.epa.gov/system/files/documents/2021-09/attachment_5-6_hg_control_cost_development_methodology.pdf.

- EPA's cost estimates underestimate the capital recovery factor and annualized capital costs. EPA's calculated total annualized costs include direct annual costs (*e.g.,* utilities, labor, reagents, waste disposal, etc.) and indirect annual costs (*e.g*., overhead, insurance, and *capital recovery*). Capital costs are converted to an annualized capital recovery cost based on an expected amortization period and interest rate. EPA typically uses the default prime bank rate for estimating capital recovery costs. EPA's cost estimates assumed an unrealistic interest rate of 5%, whereas current rates are closer to 8.5%.[122] EPA should recalculate the annualized capital costs using a more realistic interest rate.

- EPA adjusted costs for inflation using EPA's Gross Domestic Product (GDP) cost escalation methodology, which does not appropriately estimate the impact of inflation on capital costs, nor does it appropriately address operating costs. EPA needs to use well-known and established indices, such as the Chemical Engineering Plant Cost Index (CEPCI) to account for inflation in its equipment costs estimates. By using GDP scaling rather than an index like CEPCI, EPA has not properly adjusted its costs to account for inflation in both its capital cost and operating cost estimations.

I. Sinter/Recycling Plants (COS, CS_2, Hg, HCl, and HF)

EPA also proposes standards for the following HAPs purportedly pursuant to Section 112(d)(2) and (d)(3): carbonyl sulfide (COS), carbon disulfide (CS_2), mercury (Hg), hydrochloric acid (HCl), and hydrogen fluoride (HF).[123] EPA estimates industrywide sinter/recycling plant emissions are very low: a total of 55 pounds of Hg, 1.3 tpy of HF, 12 tpy of HCl, 23 tpy of CS_2, and 75 tpy of COS.[124] In relation to public health risk, these five HAPs are not carcinogenic and do not contribute to chronic or acute risk. Estimated total industrywide emissions for each pollutant, respectively, makes up less than 1% of nationwide emissions for that pollutant.[125] Further, when revised to remove the Indiana Harbor East Sinter plant (which is indefinitely idled), these industrywide emission estimates reduce to: 46.8 pounds of Hg, 0.9 tpy of HF, 6.2 tpy of HCl, 19.3 tpy of CS_2, and 58.7 tpy of COS.

1. Because existing standards are surrogates for individual organic HAP limits, EPA does not need to finalize numerous new limits.

EPA's proposed limits for COS and CS_2 are unnecessary because sinter/recycling plants are subject to existing VOC and oil-content limits that address all organic compounds. As EPA explains: "The oil limit, and the alternative VOC limit, serve as surrogates for all organic HAP."[126] EPA has explained this in better detail:

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[122] Bank of America, *Prime Rate Information*, https://newsroom.bankofamerica.com/content/newsroom/home/prime-rate-information.html (last visited Sept. 27, 2023) ("The current Bank of America, N.A. prime rate is **8.50%** (rate effective as of July 27, 2023.") (Emphasis in original.)
[123] *See* 88 Fed. Reg. at 49,402.
[124] *See id.* at 49,417, tbl. 4.
[125] *See* EPA, National Emissions Inventory, *National Point Source Emissions*, https://awsedap.epa.gov/public/extensions/nei_report_2020/dashboard.html#point-db.
[126] 88 Fed. Reg. at 49,408.

> In the past, sinter plants with baghouses have voluntarily limited oil content because the organic compounds that were emitted tend to condense and blind the bags as well as pose a fire hazard. *We believe these studies conclusively show that oil content correlates with organic emissio*ns. An emission limit for individual organic compounds is not practical because the emission controls that are used do not effectively control all organic HAP. *Conventional control systems used for organics, such as incineration or carbon adsorption, would not be practicable because they are ineffective at the very low concentration (parts per million levels) in the windbox exhaust stream. On the other hand, a limit on oil content effectively limits emissions of organic HAP, and control of oil content is a proven emission control measure.* Consequently, in this instance, we believe that a limit on oil content is the only feasible way to ensure that all plants achieve the MACT level of control for organic HAP from the sinter plant windbox exhaust.[127]

For instance, COS and CS_2 both contain carbon, thus limiting VOC and oil content can reduce formation of these compound as, for example, sinter oil is a source of carbons, and an oil-content limit mitigates one of the precursors of COS and CS_2.

2. EPA should not finalize its proposed CS_2 and HF limits for sinter/recycling plants because the available data demonstrates these pollutants are not emitted.

EPA estimates sinter/recycling plants emit: a total 1.3 tpy of HF and 23 tpy of CS_2 for the source category. EPA bases its CS_2 estimate on a limited data set of six test runs where EPA flagged 83 percent (5 out of 6) of those results as *below detection limit* (BDL).[128] BDL means that emissions are so low they are not able to be accurately read, measured, or quantified. Similarly, 13 out of 14 (93 percent) of test runs for HF from sinter/recycling plants were flagged BDL by EPA, indicating that HF is not emitted or emitted in trace amounts, and thus EPA should not set a numerical standard for HF for sinter/recycling plants.

The high percentage of runs flagged as BDL evidences that the pollutant is not emitted from sinter/recycling plants, or only emitted in trace amounts.[129] EPA's own proposed limits show the same result. EPA proposes CS_2 limits that it purports represent 3 times the representative detection limit (3xRDL).[130] Thus, one-third of the proposed limits would be the representative detection limit (RDL).

Industry Commenters have compared the six test runs in the data underlying EPA's proposed limits for sinter/recycling plants to that RDL value. When compared to EPA's RDL, 3 out of 6 of the test runs are non-detect by EPA's own standards—which reiterates that CS_2 is not emitted or

[127] 68 Fed. Reg. at 27,657 (emphasis added).
[128] *See* EPA II&S Point Source Data Summary Mem., at app. A.
[129] In the past, EPA has indicated that, when 75 percent of tests are non-detect, EPA has indicated they would consider a work practice in lieu of a numerical standard. EPA has also indicated that if all test runs were non-detect they would consider that evidence the pollutant is not emitted.
[130] *See* EPA II&S MACT Calculations, Cost Impacts, and BTF Cost Impacts Mem., at tbl. 23 (providing RDL values).

emitted only in trace amounts. Because half of the test run results are below the representative detection limit, EPA should not set a standard for CS_2 from sinter/recycling plants.

If EPA nevertheless proceeds with such numerical limits, it must revise its proposed limits upwards to help to account for known data variability and limited datasets.

3. EPA's proposed emission limits for HCl, Hg, HF, COS, and CS_2 are based on inadequate data and/or floor-setting analyses.

EPA relies on insufficient data in setting its proposed Sinter Plant limits.

For HCl, EPA relied on:	A total of 13 runs from 4 sources
For Hg, EPA relied on:	A total of 6 runs from 2 sources
For HF, EPA relied on:	A total of 14 runs from 2 sources
For COS, EPA relied on:	A total of 12 runs from 4 sources
For CS_2, EPA relied on:	A total of 6 runs from 2 sources

EPA agrees that "[s]ample size (the number of values in a particular dataset) is an important component of the UPL approach" and that two samples are too few to serve as a reliable basis for a UPL. All of EPA's proposed new CS_2 and Hg limits rely on data from only two sources and less than seven data points. This proposed dataset is too small, and the resulting UPL must be adjusted upward to account for sources of variability that could not plausibly be represented in the limited dataset (such as raw material and operational variability, in addition to measurement uncertainty) if EPA proceeds with these numerical limits. This data set is even smaller when considering that a performance test is comprised of the average of three individual test runs. Therefore, when EPA says there are six runs, this is actually only two performance test results that would be compared to the final limit. A single run can be as short as one hour, and a performance test average used to demonstrate compliance is the average of three individual one-hour test runs.

A single test event for a given pollutant (at some but not all of the sinter/recycling plant emission units) cannot possibly adequately reflect the full range of operating conditions, process factors, raw material variability, or seasonal factors that influence emissions performance.

As explained above, MACT limits should be representative of what is achieved by top-performing units across the range of operations, processes, raw material inputs, and seasons. The sinter plant windbox UPL calculation in particular needs to take into consideration the variability in the raw materials because it uses several revert iron units and carbon units, such as BF flue dust, electrostatic precipitator dust, iron fines and coke breeze, which include variation in iron and carbon amounts. As EPA has explained, data covering one year or more is more likely to account for variability due to differences in ventilation rates, weather conditions, and changes in the process over time.[131] Here, EPA uses data from stack test data over a handful of hours that fails to capture such operational and seasonal variability, including variations in iron and carbon unit-based raw materials. During the winter season, for instance, coke suppliers use chloride-based anti-freezing agents that can alter the coke, and therefore the coke breeze used at sinter/recycling

[131] *See* 68 Fed. Reg. at 27,655 (2003 II&S Final Rule).

plants. Yet, EPA does not explain how it accounts for such variation in its proposed new sinter plant limits.

Even if data were considered to be sufficient, the proposed limits were not appropriately derived from *available* data.

a. Data underlying EPA's proposed CS_2 and HF limits includes a significant number of readings below the detection limit.

EPA explains that "greater than 50 percent of the data runs were BDL" for HF and CS_2 from sinter/recycling plants.[132] The proposed limits for HF and CS_2 are not representative of current performance due to the frequency of near or below detection levels (BDL). EPA has noted that "section 112(d)(2) of the CAA specifically allows EPA to establish MACT standards based on emission controls that rely on pollution prevention techniques."[133] Where a majority of BDL values exist, EPA should instead consider pollution control techniques, such as a work practice, rather than individual limits for these HAPs. Thus, EPA should rely on the oil-content and VOC limit pollution control techniques that are already in place for these pollutants.

b. EPA inappropriately used 3xRDL values for its proposed CS_2 and HF limits in place of its higher calculated UPL limits.

In developing its proposed limits for HF and CS_2 limits, EPA did not follow its policy that: "The larger of the 3xRDL value and the calculated UPL value is used for the MACT standard emission limit to ensure that measurement variability is adequately addressed."[134] The 3xRDL limit for HF and CS_2 that EPA calculated was *lower* than the UPL limit. Typically, this would lead to EPA using the higher UPL for the MACT limit rather than the lower 3xRDL value. Here, instead, EPA applied a new criterion, explaining that: "The 3xRDL value was used as the limit for this pollutant because greater than 50 percent of the data runs were BDL."[135] EPA provides no logical justification for why it would alter course in this manner and use 3xRDL for its MACT standards, when its own UPL calculation resulted in higher MACT limits than the 3xRDL value. According to EPA, the point of selecting the higher value of either UPL or 3xRDL is to better address *measurement* variability. It would seem that the higher of the two, EPA's calculated CS_2 UPL of 4.86E-02 lb/ton of sinter (which was not calculated using adjusted or truncated test results), would better reflect such variability. More concerning, EPA does not explain why the lower 3xRDL limit it has arbitrarily selected would be more representative of best performing units across varying seasons, processes, operational conditions, and raw material inputs than the higher UPL result.

If EPA were to proceed with individual numeric limits for these pollutants (which Industry Commenters view as inappropriate for all of the above reasons), EPA should use the UPL rather than the 3xRDL value to set its proposed HF and CS_2 limits.

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[132] EPA II&S MACT Calculations, Cost Impacts, and BTF Cost Impacts Mem., at 19-21, tbl. 24, n.(a).
[133] 68 Fed. Reg. at 27,657.
[134] EPA II&S MACT Calculations, Cost Impacts, and BTF Cost Impacts Mem., at 7.
[135] *Id.* at 19-21, tbl. 24, n.(a).

c. EPA falsely justifies its use of limited data for its proposed CS2 limit on a 3xRDL value exceeding its calculated UPL.

EPA's methodology is particularly concerning with regard to its proposed CS_2 limit for sinter/recycling plants because it has attempted to justify its use of less than seven data points (*i.e.*, insufficient data) to develop its proposed CS_2 limits partly on the 3xRDL value being *greater than* the calculated UPL limit, explaining:

> A comparison of the UPL to the 3xRDL confirmed the greater CS_2 value was the 3xRDL value. Therefore, we determined to be the final floor value was at a measurable limit. As such, we are proposing that the MACT floor is 2.8E-02 lb./ton sinter for CS_2 from sinter plant sources, based on the 3xRDL value.[136]

Whereas, the opposite is true, and EPA's 3xRDL calculation was less than EPA's calculated UPL limit. EPA has failed to justify its use of a limited dataset to set its proposed HF and CS_2 limits, and its use of a lower 3xRDL limit is even more inappropriate for this pollutant.

d. EPA does not properly account for known imprecision in its use of 3xRDL for its proposed HF and CS2 limits.

If EPA nevertheless proceeds with a MACT standard based on a 3xRDL value, it should adjust such standards to account for known imprecision. EPA purports that its proposed HF and CS_2 limits represent 3xRDL (rather than a standard based on a UPL) due to the high frequency of testing results near or below detection levels for those pollutants in test data. The 3xRDL HF and CS_2 limits that EPA proposed are still at least 10 to 15 percent inaccurate according to EPA and the scientific community and do not account for the insufficiency of the limited dataset underlying these limits. Because EPA knows that an imprecision of 10 to 15 percent exists in the RDLs, the agency should adjust its proposed limits for HF and CS_2 upwards by at least 15 percent. EPA should apply additional adjustment techniques to account for data variability due to limited dataset size.

4. EPA has not properly considered surrogates for its proposed HCl and HF limits.

Surrogates for HCl and HF should be investigated further for this industry. For instance, sulfur dioxide (SO_2) and particular design elements may maintain these pollutants at current limits. As EPA intends to cap emissions at current low-risk levels with these 30 proposed limits,[137] these additional speciated numerical limits may not be needed to achieve that objective and, as detailed below, would surpass this stated purpose.

[136] EPA Approach to Applying the UPL to Limited Datasets, at 13.
[137] 88 Fed. Reg. at 49,416-17.

Table VII-5 – Summary table of deficiencies in EPA's proposed sinter/recycling plant MACT limits

HAP	Existing/ Potential for Surrogacy Control	Insufficient No. of Data Points[a,c]	Insufficient No. of Tests[a,c]	Lack of Variability in Dataset[c]	Includes Significant BDL Readings	Includes Imprecision of 15% or more	Errors of Significance in EPA Calculation	Technological Feasibility & Compliance Demonstration Concerns[b,c]
CS_2	X	X	X	X	X	X	UPL higher than 3xRDL-based proposed limit	X
HCl	X	---	---	X	---	---	---	X
Hg	---	X	X	X	---	---	---	X
HF	X	---	---	X	X	X	UPL higher than 3xRDL-based proposed limit	X
COS	X	---	---	X	---	---	---	X

[a] All insufficiency designations in this table are based on EPA's prior statements about data used for emissions standard-setting and are not representative of Industry Commenters' agreement on the sufficiency of data underlying limits not designated as insufficient in this table.

[b] Technological feasibility and compliance demonstration concerns are presented further in these comments.

[c] New sources have even more limited datasets based on the available data from the single best performing source, and the technical feasibility issues presented below in these comments are even greater (or the same) with the lower (or equivalent limits) EPA proposes for these pollutants from new sinter plants.

J. Achievement of EPA's Proposed HAP Limits Is Not Known By Industry Commenters to Be Technological Feasible.

1. The claim that existing sources can assure compliance with the new standards without additional controls is incorrect.

EPA asserts in the proposal that existing sources can comply with the new standards without additional controls.[138] Yet EPA has not shown that the new standards are achievable and maintainable by *any* point source, let alone are representative of its purported best-performing point sources if operational, process, raw material, and measurement variability are taken into account (or are providing a sufficient compliance margin). EPA's statement is based on blurred logic because, even if best performers were to be achieving the standards, it does not follow that they can do so consistently or that all other sources at II&S facilities are also meeting those limits.

In fact, it appears, EPA only may have considered the average of limited datasets in the MACT pool when it made this assertion.[139] But a closer look at available ICR data included in the docket

[138] 88 Fed. Reg. at 49,416-17.

[139] *See* EPA II&S MACT Calculations, Cost Impacts, and BTF Cost Impacts Mem., at 24-28.

shows potential for exceedance of the respective proposed limits for the following: HCl, CS_2, HF, COS, Hg and PAHs for sinter/recycling plants; HCl for BOPFs BF Casthouses and BF Stoves; and THC for the BF Casthouse Control Devices. Further, additional testing data conducted by commenters in 2023 shows considerable variation in the emission rates and several of the average test results or individual runs of the following emission units and pollutants exceeded the proposed limits: D/F, HCl, and THC for the stoves, THC for BOPFs, and HCl and THC for the casthouse control devices. The other pollutants not explicitly mentioned above that EPA proposes to regulate pose a similar concern because the data supporting the proposed limits are grossly insufficient and not representative of the operating scenarios the units experience in normal operation. For example, the proposed standard for CS_2 from sinter/recycling plants is 2.8E-02 lb/ton sinter. Individual performance test runs, however, at the Burns Harbor sinter/recycling plant observed emission rates 125 percent higher than the proposed limit, meaning both that EPA's proposed limit is not representative of potential variation experienced by these units and that pollution control equipment would be needed to maintain continuous compliance with the proposed limit. In addition, the Gary and Indiana Harbor East sinter/recycling plants both observed single test run emission results exceeding the proposed HF and HCl standards, respectively.

The limited test data represents a snapshot of emission rates that could be achieved in the short-term but does not reflect the full range of anticipated operating conditions and emission rates that each affected process unit may experience over the long-term (see, for example, Figure VII-2, depicting a wide range of variability in the potential for BF Stove HCl emissions even on the same day at the same facility that in a very limited data set that does not fully account for all variability factors for the unit type). Thus, it is possible that the maximum observed individual performance test run emission rates above could represent an averaged emission rate, as to why it is not appropriate to only consider averages of the dataset when analyzing the cost of compliance. But here, even averages do not support EPA's conclusion that no control costs would result from it propose MACT standards. For example, the average of three performance test runs from the Gary sinter/recycling plant were at 91 percent of the proposed limit for HF, and this is the only test result for this source. The limited test data underlying EPA's proposed thirty standards also means there is a high level of uncertainty regarding emission rates from existing process units, further supporting the notion that companies would need to install additional control equipment to mitigate the risk of exceeding the proposed MACT limits for point sources.

Given the lack of data, and that companies must certify continuous compliance or face potential EPA enforcement or citizen suits, EPA cannot reasonably conclude that there will be no costs for sources to meet the standards as installing new controls will be required. EPA unrealistically assumes that facilities would not need to provide a compliance margin or buffer to ensure they will be able to achieve compliance *continuously* as is required by Section 112(d). It follows that facilities will have to ensure a reasonable compliance margin to avoid exceeding the MACT limits due to variability in complex process conditions, raw materials, process upsets, or existing control equipment performance. Because of the variability in raw material inputs (*e.g.*, coke, limestone, iron ore, dolomite) for a given affected source that may impact the emissions profile for each affected process unit, which do not necessarily come from the same source for the life of the facility or that may be used in the same amounts during the stack tests used to set the standards, companies will need to take this into account in compliance planning. Operation of the affected II&S point

sources is complex making the emissions variability nearly impossible to predict, especially given the lack of available testing data.

Limited by the time allotted for comment, Industry Commenters have preliminarily evaluated the proposed limits and facility-specific considerations (as detailed below) and expect that the proposed limits would require installing add-on control technologies that have not previously been applied in iron and steelmaking processes in the US and therefore are unproven. Nor in the limited time were the Industry Commenters able to determine that installation of the controls was indeed technologically feasible, or in fact, would be able to have the removal efficiencies necessary to meet the MACT floors . However, Industry Commenters considered the following control technologies for sinter/recycling plants, BF stoves, BF Casthouse control devices, and BOPFs to develop potential costs to install controls with the ability to meet the very lower MACT floors (but the assumption of technological feasibility of such controls has been made only for the purpose of developing such costs as these control technologies are not necessarily proven):

- ***Activated Carbon Injection (ACI) with a polishing baghouse for control of Hg, PAHs, D/F***. A point source controlled by existing wet scrubbers cannot install a polishing baghouse downstream due to moisture plugging concerns. Therefore, it was assumed that a dry ESP would replace the existing scrubbers (where applicable) to maintain the existing particulate control efficiency and allow for product recycle free from ACI contamination as applicable, and a polishing baghouse with ACI would be installed downstream of the new ESP for the following sources: Burns Harbor sinter/recycling plant and BOPFs; Cleveland P905 and P906 BOPFs; Middletown BOPFs; Gary BOPFs; and Braddock BOPFs. Existing process units without particulate matter (PM) controls or controlled by an ESP or baghouse would add-on a polishing baghouse with ACI.

- ***Dry Sorbent Injection (DSI) with a polishing baghouse for control of HCl and HF***. As with ACI, existing wet scrubbers would be replaced by a dry ESP, followed by a polishing baghouse for the same sources listed above for ACI. Existing process units without particulate matter (PM) controls or controlled by an ESP or baghouse would add-on a polishing baghouse with DSI.

- ***Regenerative thermal oxidizer (RTO) for control of THC, COS, and CS_2.*** It is assumed that an RTO could provide incremental control of THC. For COS and CS_2 from sinter/recycling plants, it was assumed that a quench with DSI and a polishing baghouse would be installed downstream of the RTO to capture the SO_2 formed by the oxidation of COS and CS_2.

EPA cannot assume that technologies from other industry sectors would be feasibly transferrable to this source category and these point sources. II&S point sources are unique. They have large exhaust flow rates, and the industry's processes are complex, handling several types of raw materials including coke, lime, and iron ore from various sources. Further upsetting potential feasibility and transferability of emission control equipment from other industries is that concentrations of HAPs in the exhaust streams of these point sources can often times be very dilute. There has been no testing to date of any control technologies at II&S facilities to determine the emissions reduction for the proposed MACT limits. Thus, even if new pollution controls are

installed and function as intended, these facilities could spend millions of dollars and still have no certainty as to the removal efficiency that would be achieved in practice for each point source.

In order to utilize these controls, companies would need to undertake extensive testing and analysis, including pilot demonstrations, prior to commercial-scale deployment across the industry. EPA has not only failed to account for any of the costs associated with these activities, but it has also assumed that they are not required at all. The use of control technologies for the HAP proposed to be regulated, such as activated carbon injection (ACI), dry sorbent injection (DSI), or regenerative thermal oxidizers (RTOs), have not been applied in II&S processes and therefore are unproven. Incidental emissions from add-on control technologies also must be considered. It is not appropriate to assume that existing particulate controls, for instance, would be sufficient to accommodate potential incidental emissions increases from these pollution control technologies. Similarly, add-on THC controls would require oxidation-based controls with incremental natural gas firing for reheat to thermal oxidation temperatures. These control equipment-derived emissions would be *in addition to* PM emissions that already must be controlled by existing control equipment. Yet, all emissions will need to be subject to existing point source limits. To maintain compliance, additional pollution control equipment, such as sorbent injection-based control technologies, would very likely require new polishing particulate controls or a new particulate control train of dry-based technologies to maintain compliance.

2. Industry Commenters' preliminary review of control technologies.

Industry Commenters have reviewed various control technologies for the HAPs for which EPA proposes new limits. As detailed below, Industry Commenters have concerns with the feasibility and efficacy of potential control technologies.

a. Activated Carbon Injection with a polishing baghouse as potential add-on control technology.

Activated carbon injection (ACI) with a baghouse can provide some level of emissions control of D/F under certain conditions, but cannot control D/F emissions below a certain threshold. In other words, even with applying the latest technology, it is highly unlikely that very low D/F emissions can be reliably controlled further.

ACI with a baghouse for potential control of D/F from BF Stoves. The baseline exhaust concentrations of D/F from BF Stoves are so low that guaranteeing any control efficiency is questionable at best. For example, the Burns Harbor Blast Furnace C Stove performance test in December 2012 achieved a D/F TEQ concentration of <7E-06 ug/dscm and the Granite City test result average was 2.6E-06 ug/dscm. Based on design conditions of D/F controls from vendors, the lowest advertised D/F exit concentration from control equipment is 1E-04 ug/dscm TEQ.[140] Therefore, emission rates are already below concentrations that can be guaranteed by emission control vendors and additional consistent and reliable emission reductions may not be achievable, especially since D/F emissions are less than 1 g/yr per blast furnace stove. The dilute nature of the

[140] *See* Primetals Technologies Austria GmbH, Maximized Emission Reduction of Sintering (2020), https://www.primetals.com/fileadmin/user_upload/content/01_portfolio/1_ironmaking/sinter-plant/MEROS-2.pdf.

D/F compounds would lead to limited pollutant adsorption rates to the activated carbon, rendering the controls ineffective. Given ACI limitations, the proposed limits may be unachievable considering the potential for emissions variability.

ACI with a baghouse for potential control of D/F from BOPF Primary Control Devices. Similarly, the baseline exhaust concentrations of D/F from the BOPF are too low to guarantee any reliable control efficiency. Further, the dilute nature of the D/F compounds in BOPF emissions would limit the pollutant adsorption rate of the activated carbon, rendering the controls ineffective. As noted above, the design conditions of D/F controls provide the lowest design exit concentration of 1E-04 μg/dscm TEQ. Here, under EPA's estimates, each BOPF would have the potential to generate to less than 1 g/yr. For example, the Burns Harbor #1 BOPF measured D/F TEQ concentration of <1E-05 ug/dscm and the Granite City average test result was 1.2E-4 μg/dscm. These values are at or below the lowest design exit concentration of D/F control equipment. Because baseline exhaust concentrations of D/F from the BOPF are so low, it is not possible to guarantee that any predictable control efficiency would result from application of ACI with a baghouse to BOPFs. Therefore, with emission rates are already below concentrations, considering the dilute nature of D/F emissions from BOPFs it is likely that additional emission reductions may not be achievable through the application of ACI with baghouse, especially considering the potential for emissions variability.

ACI with a baghouse for potential control of D/F, PAH, and Hg from Sinter/Recycling Plants. Ultimately it is not well understood what level of D/F, PAH, and Hg control efficiencies are achievable in practice, given dilute sinter/recycling plant exhaust concentrations of these pollutants and no site-specific testing is available to assess the effectiveness and feasibility of ACI. Inlet concentrations of D/F, PAH, and Hg, are so low that guaranteeing any control efficiency using ACI is questionable at best. For example, the Indiana Harbor East (IHE) sinter/recycling plant test in April 2012 achieved an average D/F TEQ concentration of 4.89E-07 μg/dscm over four runs Based on vendors, the advertised D/F exit concentration from control equipment is 1E-04 μg/dscm TEQ.[141] Therefore, emission rates are already below concentrations that can be achieved by emission control vendors and additional emission reductions may not be achievable, especially since D/F emission are on the magnitude of approximately 3 grams or less per year per sinter/recycling plant. The dilute nature of the D/F compounds in the sinter/recycling plant exhaust would lead to limited pollutant adsorption rates to the activated carbon, potentially rendering the controls infeasible.

ACI or other CS_2/COS technologies for potential control of CS_2 and COS for Sinter/Recycling Plants. EPA assumes that ACI would control COS emissions by 85% but this is unproven.[142] COS is not a commonly controlled pollutant for industrial waste gases, nor are there readily available pollution controls for COS from II&S sinter/recycling plants. Traditional methods of COS or CS_2 removal are through amine absorption and stripping of pre-combustion fuel gas or hydrolysis. These technologies are maturely applied in the petrochemical and natural gas industries.[143]

[141] *See id.*
[142] *See* EPA 2020 AMOS Memorandum.
[143] *See* Pengfei L, Guangchun Wang, Yuan Dong and Yuqun Zhuo Yaming Fan, A Review on Desulfurization Technologies of Blast Furnace Gases, at 191 (Mar. 29, 2022).

However, they are not applicable or technically feasible, nor is industry aware of any demonstrations of ACI or other CS_2/COS technologies used in the petrochemical or natural gas industries in similar installations to II&S sinter/recycling plants or post-combustion flue gas treatment. In other words, no technically feasible control options exist for the control of COS and CS_2 in a dilute post-combustion flue gas stream from a sinter/recycling plant of which Industry Commenters are aware. In theory, thermal oxidation of COS/CS_2 to SO_2 may be technically feasible, but this is very energy intensive and generates collateral emissions. Therefore, the proposed standards may be unachievable for COS/CS_2 given emissions variability without significant environmental impacts (*i.e.*, major increases in energy use from thermal oxidation).

b. Dry sorbent injection (DSI) with a baghouse as a potential add-on control.

DSI with a baghouse or fabric filter for potential control of HCL from BF Stoves. Blast furnace stove HCl exhaust concentrations are very dilute (maximum performance test run results across II&S facilities of 0.62 ppmvd). Therefore, industry is concerned that any application of HCl controls such as DSI with a baghouse would not be able to sufficiently control emissions below the proposed limits with the potential emissions variability. High control efficiencies (*e.g.*, 90%)[144] for HCl may be achievable with DSI and a fabric filter when contaminant concentrations are much higher such as medical waste incinerators (HCl inlet concentrations ranging from 575 to 1,250 ppm).[145] Vendors have stated that the lowest target concentration for DSI for HCl would be 0.5 ppm to 1 ppm. This means that the existing HCl concentrations are already at or below the lowest level of outlet concentrations that can be achieved by DSI. Further, the existing HCl concentrations are below the discharge limits for continuous pickling lines required by 40 C.F.R. § 63.1158(a)(1)(i) (the Steel Pickling NESHAP regulations are found at 40 C.F.R. Part 63, subpart CCC). Therefore, any limit that would result in controls lower than those under the Steel Pickling NESHAP regulations would be unreasonably stringent. Further, the dilute HCl concentrations in exhaust from blast furnace stoves may result in inconsistent and unpredictable control efficiencies. This is concerning because blast furnace stoves will have emissions variability and the need for compliance buffers. Site-specific testing would be needed to test DSI or other HCl control technologies to vet them as possible controls. Therefore, EPA may be proposing unachievable standards for blast furnace stove HCl emissions.

DSI with a baghouse for potential control of HCl from BF Casthouse Control Devices. Casthouse HCl exhaust concentrations are very dilute (maximum performance test run results across II&S facilities of 3.2 ppmvd). Therefore, there are serious concerns that any application of HCl controls such as DSI with a baghouse would not be able to sufficiently control emissions below the proposed limits, given the potential emissions variability. High control efficiencies

[144] *See* Sargent & Lundy, LLP, IPM Model – Updates to Cost and Performance for APC Technologies; Dry Sorbent Injection for SO2/HCl Control Cost Development Methodology: Final, at 1, 3 (April 2017) ("EPA Cost Methodology"), https://www.epa.gov/sites/default/files/2018-05/documents/attachment_55_dsi_cost_development_methodology.pdf.

[145] *See* Gerald Hunt et al., *Utilizing Dry Sorbent Injection Technology to Improve Acid Gas Control: Paper #2*, 4 at tbl. 1 (Oct. 20-22, 2015), https://www.sorbacal.com/sites/default/files/downloadcenter/utilizing_dry_sorbent_injection_technology_to_improve_acid_gas_control.pdf.

(*e.g.*, 90%)[146] for HCl may be achievable with DSI and a fabric filter when contaminant concentrations are much higher such as medical waste incinerators (HCl inlet concentrations ranging from 575 to 1,250 ppm).[147] Vendors have stated that the lowest target concentration for DSI for HCl would be 0.5 to 1 ppm. This means that the existing HCl concentrations are essentially at the lowest level of outlet concentrations that can be achieved by DSI. Further, the existing HCl concentrations are below the discharge limits for continuous pickling lines required by 40 CFR 63.1158(a)(1)(i). Therefore, any limit that would result in controls lower than those under the Steel Pickling NESHAP regulations are unreasonably stringent. The dilute HCl concentrations in the exhaust from casthouses are expected to result in inconsistent and unpredictable control efficiencies. This is concerning because casthouses will have emissions variability and the need for compliance buffers. Site-specific testing would be needed to test DSI or other HCl control technologies to vet them as possible controls. Therefore, EPA may be proposing unachievable standards for casthouse HCl emissions.

DSI with a baghouse for potential control for HCl from BOPF Primary Control Devices. BOPF Primary Control Device HCl exhaust concentrations are very dilute (maximum performance test run results across II&S facilities of 0.43 ppm). Therefore, industry is concerned that any application of HCl controls such as dry sorbent injection (DSI) with a baghouse would not be able to sufficiently control emissions below the proposed limits with the potential emissions variability. High control efficiencies (*e.g.*, 90%)[148] for HCl may be achievable with DSI and a fabric filter when contaminant concentrations are much higher such as medical waste incinerators (HCl inlet concentrations ranging from 575 to 1,250 ppm).[149] Vendors have stated that the lowest target concentration for DSI for HCl would be 0.5 ppm to 1 ppm. This means that the existing HCl concentrations are already below the lowest level of outlet concentrations that can be achieved by DSI. Further, the existing HCl concentrations are below the discharge limits for continuous pickling lines required by 40 CFR 63.1158(a)(1)(i). Therefore, any limit that would result in controls lower than those under the Steel Pickling NESHAP regulations are unreasonable stringent. The dilute HCl concentrations in the exhaust from BOPF Primary Control Devices are expected to result in inconsistent and unpredictable control efficiencies. This is concerning because BOPFs will have emissions variability and the need for compliance buffers. Site-specific testing would be needed to test DSI or other HCl control technologies to vet them as possible controls. Therefore, EPA may be proposing unachievable standards for BOPF HCl emissions.

DSI with a baghouse for potential control of HCl and HF from Sinter/Recycling Plants. Sinter/recycling plant HCl and HF (acid gases) exhaust concentrations are very dilute (maximum performance test run results across II&S facilities of 2.53 ppmvd and 0.08 ppm respectively). Therefore, industry is concerned that any application of acid gas controls such as dry sorbent injection (DSI) with a baghouse would not be able to sufficiently control emissions below the proposed limits with the potential emissions variability. High control efficiencies (e.g., 90%)[150] for acid gases may be achievable with DSI and a fabric filter when contaminant concentrations are much higher such as medical waste incinerators (with HCl inlet concentrations ranging from 575

[146] *See* EPA Cost Methodology, at 1, 3.
[147] *See* Hunt, Utilizing DSI Technology, at 4, tbl. 1.
[148] *See* EPA Cost Methodology, at 1, 3.
[149] *Id.*
[150] *Id.*

to 1,250 ppm).[151] Vendors have stated that the lowest target concentration for DSI for HCl would be 0.5 to 1 ppm. This means that the existing HCl concentrations are essentially at the lowest level of outlet concentrations that can be achieved by DSI. Further, the existing HCl concentrations are below the discharge limits for continuous pickling lines per 40 CFR 63.1158(a)(1)(i). Therefore, any limit that would result in controls lower than those under the Steel Pickling NESHAP regulations are unreasonably stringent. The dilute HCl/HF concentrations in exhaust from II&S sinter/recycling plants may result in inconsistent and unpredictable control efficiencies. This is concerning because II&S sinter/recycling plants need to account for emissions variability and compliance buffers. Site-specific testing would be needed to test DSI or other acid gas control technologies to vet them as possible controls. Therefore, EPA may be proposing unachievable standards for sinter/recycling plant acid gases.

c. Catalytic oxidation or regenerative thermal oxidizer (RTO) as potential control technologies.

Catalytic oxidation and RTO for potential control of THC from BF Stoves. Catalytic oxidation is not considered to be feasible for the stoves because the THC compound speciation is not well understood for proper catalyst formulation, and there is potential for catalytic poisoning from contaminants in the blast furnace gas. An RTO could be used to provide supplemental THC control. However, separate vendors stated that the lowest guarantees they typically can provide are 20 ppmv THC as methane or 5 ppmv THC as propane. The highest single run THC concentration from stove performance testing was 37.9 ppmvd THC as propane. However, performance test results vary significantly with other performance test results closer to 1 ppmvd THC as propane. Therefore, the observed THC emissions are close are at times below at capture limitations for THC. Further, the THC emissions variability from the stoves is unpredictable due to the complex operation of the blast furnace, raw material variability, etc. Therefore, EPA may be proposing unachievable limits considering the potential for emissions variability. The low concentration levels of the THC emissions would lead to a lack of reliable control efficiency, potentially rendering the controls infeasible.

Catalytic oxidation and RTO for potential control of THC from BF Casthouse Control Devices. Catalytic oxidation is not considered feasible for the casthouse because the THC compound constituent speciation is not well understood for proper catalyst formulation, and there is potential for catalytic poisoning from contaminants in the blast furnace Casthouse exhaust. A regenerative thermal oxidizer could be used to provide supplemental THC control. However, separate vendors have stated that the lowest guarantees they typically can provide are 20 ppmv THC as methane or 5 ppmv THC as propane.[152] The highest single run THC concentration from BF Casthouse control device performance testing was 13.3 ppm THC as propane. The highest observed THC concentrations are essentially at the capture limitations for THC. Further, the THC emissions variability from the casthouses are unpredictable due to the complex operation of the blast furnace, raw material variability, etc. With the BF Casthouses Control Devices as well, the low concentration levels of the THC emissions would lead to a lack of reliable capture efficiency, potentially rendering the controls infeasible.

[151] *See* Hunt, Utilizing DSI Technology, at 4, tbl. 1.
[152] Pursuant to information provided by control equipment vendors on telephone calls.

Catalytic oxidation or RTO for potential control of THC from BOPF Primary Control Devices. Catalytic oxidation is not considered to be feasible for the BOPFs because the THC compound speciation is not well understood for proper catalyst formulation and there is potential for catalytic poisoning from contaminants in the BOPF exhaust gas. A regenerative thermal oxidizer could be used to provide supplemental THC control. However, separate vendors stated that the lowest guarantees they typically can provide are 20 ppmv THC as methane or 5 ppmv THC as propane. The highest single run THC concentration from stove BOPF performance testing was 13.3 ppm THC as propane. The highest observed THC concentrations are essentially at capture limitations for THC. In addition, dust carry over from the BOPF particulate control device may plug a regenerative heat exchanger, needed to maximum heat transfer efficiency for waste gas reheat. Further, the THC emissions variability from the BOPFs are unpredictable due to the complex operation of the BOPFs, raw material variability, open vs. closed hood design, and scrap material variability. Achievability of the proposed limits is not known, especially considering the potential for emissions variability.

d. Other potential controls

Windbox Gas Recirculation for potential control of D/F from Sinter/Recycling Plants. According to EPA, D/F emissions have been controlled by European sinter plants using various forms of windbox gas recirculation.[153] Windbox gas recirculation technologies would require major modifications to the existing sinter/recycling plant waste gas stream, ducting arrangements, etc. It is unknown if these techniques could be applied to U.S. II&S sinter/recycling plants without inhibiting production rate or sinter quality. As EPA explains, "[a]lthough the literature shows that there are many techniques to control dioxin/furan emissions from sinter/recycling plants, with some techniques more developed than others, but the successful application of these techniques to U.S. II&S facilities is unknown."[154] Therefore, with the control technology unknowns and limitations for HAPs from II&S sinter/recycling plants, achievability of the proposed limits is not known.

3. The controls that would be required would have adverse effects that have not been considered, notwithstanding Section 112(d)(2)'s direction that such impacts be considered in issuing a MACT standard.

There are several adverse environmental and energy impacts of new pollution control equipment that industry evaluated including:

- ACI with a polishing baghouse (D/F, PAH, and Hg)
    - Incremental electricity for a new polishing baghouse and fans, resulting in collateral combustion emissions from power generation sources.
    - Solid waste disposal of spent carbon.
    - Compressed air for baghouses.

[153] *See* Memorandum from Donna Lee Jones, OAQPS/US EPA; Brian Dickens and Patrick Miller, EPA Region V/US EPA and, Gabrielle Raymond, RTI International, to Integrated Iron and Steel (II&S) Residual Risk and Technology Review (RTR) Project File, on "Technology Review for the Integrated Iron and Steel NESHAP," at 20-21 (March 1, 2020).
[154] *Id.* at 21.

- Make-up water for quenching hot exhaust where applicable.

- DSI with a polishing baghouse (HCl and HF)
  - Incremental electricity for a new polishing baghouse and fans, resulting in collateral combustion emissions from power generation sources.
  - Solid waste disposal of spent sorbent.
  - Compressed air for baghouses.
  - Make-up water for quenching hot exhaust, where applicable.

- RTOs (COS, CS_2, and THC)
  - Incremental electricity to overcome the pressure drop from RTOs.
  - Natural gas combustion for flue gas reheat to reach oxidation temperatures, resulting in collateral combustion emission of criteria pollutants, GHG, and HAPs.

- Significant industry wide impacts
  - Electrical demand increase of 82MW.
  - Natural gas combustion increase of approximately 3,800 MMBtu/hr for RTO reheat, contrary to decarbonization goals.

4. EPA needs to address implementation and compliance schedule concerns.

The proposal calls for compliance with the proposed existing source limits within six months of a final rule.[155] Because the proposed limits would require installation of pollution control technology, facilities will need a compliance date that is at least the three years available pursuant to CAA Section 112(i)(3)(A) after a rule is finalized, to provide industry needed time to evaluate, design, and install additional control technology to ensure that the limits can be met over the range of anticipated operating conditions.

More specifically, the following would need to be undertaken prior to being able to ensure compliance with the proposed limits:

- Additional stack testing to better determine variability
- Technology review and selection.
- Pilot or slip-stream testing.
- Site-specific engineering and planning.
- Equipment design.
- Equipment fabrication and delivery.
- Increased demand raising costs.
- Increased demand tying up niche contractors that serve the industry.
- Construction and site-specific modification.
- Shakedown of new equipment.

Industry Commenters estimate installation of air emission controls will take upwards of five years.

[155] *See* 88 Fed. Reg. at 49,418.

It is not responsive to this issue to state that regulated entities can begin evaluating compliance capabilities based on the proposal. Because of the significant flaws in the proposed limits, the mix of limits that ultimately may be promulgated by EPA is not at all certain and therefore cannot be reasonably evaluated. The tradeoffs between various pollutants as well as the impact of potentially more or less stringent limits in what is ultimately finalized means that Industry Commenters cannot reasonably plan for compliance now.

In addition, EPA has solicited comment on whether an averaging compliance alternative should be considered for the NESHAP to demonstrate compliance with the limits and if so what types of alternatives should be considered.[156] Industry Commenters generally endorse an averaging compliance alternative as averaging usually improves cost effectiveness.

K. Costs to implement the proposed HAP limits are unreasonable, having the potential to jeopardize the crucial, domestic iron and steel industry.

Industry Commenters' estimate, recognizing the caveats explained above, that the proposed standards would impose exorbitant costs. As noted above, the proposed limits would force companies to install many new pollution controls, , which may not be proven, to always maintain compliance. Industry Commenters' cost estimate for all affected point source process units and proposed limits totals approximately $3.2 billion in capital investment and $749 million in annual costs, as shown in Appendix K and Table VII-6.[157] These calculations are based upon many uncertainties, limited EPA data, and in some cases unproven technologies. The estimates were prepared to try to determine what the potential impacts of the proposed rule could be, but these estimates also support that EPA needs to engage with stakeholders and develop a more technologically and economically feasible rule.

[156] 88 Fed. Reg. at 49,417.

[157] The data and information contained in these comments is calculated based upon several assumptions and on only the Rule as proposed. The data should not be considered to be a disclosure for any company or for the amounts to be applied to any specific facility.

Table VII-6 – Total Industry Wide Costs for Point Source Compliance[158]

Total Industry-Wide Costs and Major Utilities		
Capital Costs		
Direct Capital Costs (DC)		$1,355,046,615
Indirect Capital Costs (IC)		$779,725,303
Total Capital Investment (TCI = DC + IC)		$2,134,771,917
Total Capital Investment (TCI = DC + IC) with Retrofit Factor		$3,202,157,876
Operating Costs		
Direct Operating Costs ($/year)		$346,935,940
Indirect Operating Costs ($/year)		$457,368,171
Total Annual Cost ($/year)		$748,874,753
Utility Usage and Waste Generation		
Electricity (kW-hr/yr)		677,679,279
Electricity (MW)		***82***
Natural Gas (MMBtu/year)		31,272,813
Natural Gas (MMBtu/hr)		***3,775***

As noted above, Industry Commenters evaluated the following technologies:

- ***ACI with a polishing baghouse for control of Hg, PAHs, and D/F***. Units controlled by wet scrubbers cannot install a polishing baghouse due to moisture plugging concerns. Therefore, it was assumed that a dry ESP would replace the existing scrubbers to maintain the existing particulate control and allow for product recycle as applicable. A polishing baghouse would be installed downstream of the new ESP. Existing sources without wet scrubbers would only install ACI with a polishing baghouse.

- ***DSI with a polishing baghouse for control of HCl, and HF.*** Same as ACI, existing wet scrubbers would be replaced by a dry ESP, followed by a polishing baghouse. Existing sources without wet scrubbers would only install ACI with a polishing baghouse.

- ***Regenerative thermal oxidizer for control of THC, COS, and CS_2.*** It is assumed that an RTO could provide incremental control of THC. For COS and CS_2, it was assumed that a quench with DSI and a polishing baghouse would be installed downstream of the RTO to capture the SO_2 formed by the oxidation of COS and CS_2.

Industry Commenters also evaluated the cost-effectiveness of controls by pollutant. The range of cost-effectiveness by unit type and pollutant, as summarized in Table VII-7, shows compliance with the proposed limits would be unreasonable and not remotely close to being justifiably "cost effective" for any business.

[158] The data and information contained in these comments is calculated based upon several assumptions and on only the Rule as proposed. The data should not be considered to be a disclosure for any company or for the amounts to be applied to any specific facility.

Table VII-7 – Industry Commenters' Estimated Cost Effectiveness of EPA's Proposed HAP Limits

Unit	Pollutant	Units	Lowest Cost Effectiveness	Highest Cost Effectiveness
Sinter/Recycling Plant	D/F TEQ	$/gram	$ 1,079,331	$ 3,433,362
Sinter/Recycling Plant	PAH	$/ton	$ 5,064,528	$ 11,439,413
Sinter/Recycling Plant	Hg	$/lb	$ 337,837	$ 1,412,571
Stoves	D/F TEQ	$/gram	$ 166,383,402	$ 376,269,043
Stoves	HCl	$/ton	$ 13,189,564	$ 57,107,059
Stoves	THC	$/ton	$ 395,175	$ 1,416,070
Casthouse	HCl	$/ton	$ 14,429,069	$ 56,814,336
Casthouse	THC	$/ton	$ 267,538	$ 1,582,548
BOPF	D/F TEQ	$/gram	$ 2,178,245	$ 7,176,105
BOPF	HCl	$/ton	$ 373,168	$ 1,589,537
BOPF	THC	$/ton	$ 898,267	$ 5,094,387

For comparison, EPA has found "controls are not considered cost effective, where cost effectiveness estimates are determined to be . . . $188 trillion/ton ($94 million/lb) for . . . sinter plant dioxins/furans, respectively."[159] Following EPA's prior determinations as a guide, EPA would agree for instance, that the cost effectiveness estimates for D/F listed in the table above would not be cost effective. The extreme cost effectiveness values shown above demonstrate that controls under any existing scenario are not cost-effective. Therefore, it is not economically feasible to install any pollution controls, and EPA should not finalize its proposed speciated HAP limits that would, in fact, require facilities to install controls for all targeted pollutants under any operating scenarios due to the unjustifiably and extremely high costs.

All assumptions are documented in the attached Industry Commenters' cost analysis, Appendix K. It should be noted that there are many affected units requiring control technologies to ensure continuous compliance for applicable regulated pollutants. The resulting permutations and combination of emission units and pollutants results in 161 separate cost-effectiveness evaluations to cover all affected sources. Further details and assumptions can be found in Appendix K. Key information and assumptions supporting the engineering cost evaluation include the following:

- Based on the potential for considerable emissions variability and various performance test results exceeding the proposed standards, Industry Commenters assumed a hybrid approach to estimate emission reductions achieved by emission controls. Pollutant emission rates entering control equipment assume that 1) 90% of annual emissions are represented by site-specific performance tests (included in the docket per EPA-HQ-OAR-2002-0083-1444 and corrected, as applicable, if errors occurred, see above) or appropriate

[159] 84 Fed. Reg. 42,726.

averages below the proposed emission standards for units with site-specific tests, and 2) 10% of annual emissions would exceed the proposed pollutant specific standards by 5%.

- The cost analysis for point sources are not duplicated with costs required to comply with the standards for what EPA has designated as "UFIPs" also proposed in this rulemaking. For example, the total industry costs exclude new polishing baghouse costs for the casthouse DSI evaluation because the baghouse cost is already accounted for by the UFIP cost evaluation.

- Capital equipment costs are scaled to each unit based on recent vendor quotes from similar projects and adjusted for inflation using the Chemical Engineering Plant Cost Index. Equipment sizing is site-specific based on emission unit exhaust flowrates and operational parameters. Capital equipment is different for each control technology and evaluated scenario, but may include: new particulate control devices; regenerative thermal oxidizers; fans and motors to overcome increased incremental system pressure drops; stacks; and ACI and DSI systems.

- Operating costs include incremental increases in electricity, solid waste disposal, make-up water, compressed air and natural gas consumption. Solid waste disposal costs do not account for incremental process dust capture, which is likely to occur and increase annualized costs.

- Economic impacts analyses follow the procedures found in the most up to date sections of the EPA Control Cost Manual (CCM).

- Industry Commenters assumed that a control efficiency of 50% for control equipment given the significant uncertainty that additional emission control is technically feasible with the dilute inlet concentrations of regulated HAPs (see feasibility concerns above). The only exception is COS and CS_2 from the sinter/recycling plants, because these sulfur compounds can be readily oxidized in an RTO at higher temperatures.

- Estimates of production rates, operating hours, and design exhaust flows for new equipment are based off of facility-specific values from the 2022 ICR responses or other facility specific data.

- A retrofit factor of 1.5 has been applied to account for additional construction costs imposed by extreme space constraints at all facilities and the increased difficulty of retrofit installations, equipment handling and erection due to numerous reasons, such as space restrictions impeding transportation access and laydown space, etc. for new equipment, structural weight capacity limits for rooftop installations, electrical infrastructure limitations, the ancillary equipment requirements of evaluated technologies, piping, structural, electrical, demolition, etc.

- Based on the scale of the proposed equipment installations, industry expects that it would require significant downtime beyond that of a typical annual outage to tie in the new equipment and resume normal operations and, thus, lost production (causing lost revenue)

to install the proposed controls. Extreme space constraints are likely to require demolition of existing control devices to make room for upgrades. All of this would take additional time. These costs would be substantial and detrimental to the livelihood of industry facilities. These costs are not included in the cost analysis at this time given the limited time period for comment.

L. EPA's 15 proposed HAP limits for new sources rely on insufficient data and are unlikely to be technologically feasible.

Industry Commenters are concerned that any new sources would also not be able to meet the emission rates of the best performers given the lack of sufficient data underlying EPA's proposed new source limits for the 15 HAPs that inherently does not capture process, operational, raw material, seasonal and measurement variability of EPA-designated best performing source.
Achievability of the new source proposed limits is a concern because it is also unlikely that it would be technologically feasible for pollution control equipment to guarantee any degree of control of such low or dilute concentrations of D/F, PAHs, COS, CS_2, Hg, THC, HF, and HCl, which fall below the lowest target concentrations and capture limitations of such equipment. Further, the sources of raw materials and the impact on emissions variability cannot be reasonably predicted.

EXHIBIT K:

Declaration of Paul Murphy (Sept. 17, 2024) ("Murphy Decl.")

Declaration of Paul Murphy, Trinity Consultants

1. My name is Paul Murphy. I am an air quality consultant for Trinity Consultants Inc. (Trinity) and serve as a Managing Consultant.
2. I hold a degree in Chemical Engineering and, as a consulting engineer, I am an expert in Clean Air Act (CAA) compliance management and source testing. This includes advising clients on managing compliance with state and federal requirements, including National Emissions Standard for Hazardous Air Pollutants (NESHAP). I am also a registered Professional Engineer (MA License No. 41840).
3. My 38 years of professional experience includes conducting and managing emissions testing programs on industrial sources as well as compliance demonstrations using numerous EPA Reference Methods, including Reference Method 25A (hereinafter referred to as 'the THC Method'). In addition, my experience includes providing construction and operating permit consulting, overseeing compliance and engineering test programs, air compliance auditing, air compliance program development and control device selection for a variety of manufacturing industries and institutional facilities.
4. Trinity is a leading national provider of CAA compliance services to regulated sources where I work with a team of more than 600 consulting engineering and science professionals. Trinity has provided CAA compliance solutions to regulated entities for more than 50 years.
5. On April 3, 2024, the US Environmental Protection Agency (EPA) promulgated final amendments to the *National Emissions Standard for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing Facilities Technology Review* (see 89 FR 23294), commonly referred as the "II&S MACT".
6. To develop new standards in this rule, EPA issued Information Collection Requests (ICRs), to establish a MACT Floor including one for total hydrocarbons (THC).
7. In response to the ICR, Cleveland-Cliffs Steel LLC (Indiana Harbor) conducted and submitted a stack test report that included THC data for the Basic Oxygen Process Furnaces situated at No. 3 and No. 4 Steel Producing, which is the subject matter my declaration focuses on.[1]
8. In its Opposition to Petitioner's Motion to stay, EPA indicated that it evaluated all the "valid data" that it received. The THC Method does not define the term 'valid data.' However, the THC Method does establish criteria, which, if not met, will invalidate the results. In a memo to Phil Mulrine at EPA's OAQPS from Jeremy Kaelin, RTI noted that THC data that Cleveland-Cliffs submitted for its Indiana Harbor facility was rejected because the data were collected

[1] *Results of the Engineering Testing,* Elemental Air, report dated 7/27/23, for testing conducted for the BOPFs situated at No. 3 and No. 4 Steel Producing on June 13-23, 2023.

using an incorrect procedure.[2] The reason given was that the THC data were "drift-corrected" and therefore not used by EPA in the standard setting procedure.

9. The testing data in question is from a stack test conducted by an established stack testing company, Elemental Air, and was prepared by Brian Durkop, President of Elemental Air. Mr. Durkop is a Qualified Stack Testing Individual (QSTI).

10. The raw uncorrected data were contained in the test report submitted to EPA. In fact, the calibration data were all within the specifications for the Method. The test of validation of the data is not based on whether raw data were drift-corrected, but whether the calibration criteria for the raw data met the calibration tolerances of the Method. By the criteria established in the THC Method, the data met the calibration criteria and, consequently, were not at risk of invalidation.
11. The THC Method does not prohibit drift correction, nor did any EPA information request for the THC Method include a prohibition on drift correction. It is important to understand that "drift correction" requires an after-the-fact mathematical adjustment to the raw (i.e., uncorrected) data. This adjustment procedure was clearly documented in the stack test report. That is, the drift correction calculation showed how the raw data were corrected for drift.
12. According to the Method, Calibration Drift means the difference in the measurement system response to a mid-level calibration gas before and after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place. Also, according to the Method, Zero Drift means the difference in the measurement system response to a zero level calibration gas before or after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place. The acceptable tolerance for calibration drift is specified in Section 13 of the THC Method:
    - 13.1.1 Zero Drift. Less than ±3 percent of the span value.
    - 13.1.2 Calibration Drift. Less than ±3 percent of span value.
    - 13.1.3 Calibration Error. Less than ±5 percent of the calibration gas value

13. To determine if the test report met the criteria of "valid data," I reviewed the report in question and that the data were collected in strict conformance with EPA Reference Method 25A. For this test Elemental Air used a Thermo Fisher, Model 51 flame ionization analyzer, which is the analytical method specified in Method 25A. The flame ionization

[2] Memo to Phil Mulrine at EPA's OAQPS from Jeremy Kaelin, et al, RTI International, dated January 17, 2024 (Exhibit C of Appendix to Respondents' Opposition to Petitioners' Motions for Stay, August 15, 2024

analyzer is in widespread use throughout the United States for determining THC concentrations at a wide variety of emission sources. The THC data, including date and time stamp, were logged every second and the logging software provided average values for each minute interval throughout the test period. The flame ionization analyzer was calibrated using EPA Protocol 1 gases that were certified for accuracy. The calibration procedure included establishing a multi-point calibration curve and assessing drift. All these activities conformed to the THC Method and were documented in the stack test report provided to EPA.

14. Review of the calibration data, including calibration drift data, found that all calibration data were within the tolerances established by the THC Method.
15. The report provided a summary of the data, which included the average raw concentration for each run and the average raw concentration for all three of the runs (without drift correction).
16. The report also included other summaries that are typically requested by certain state authorities. Specifically, the report included a summary of drift-corrected concentrations. The THC Method does not prohibit nor require drift correction.
17. The THC Method does state that if the drift values exceed the specified limits, the tester must invalidate the test results preceding the check and repeat the test following corrections to the measurement system. Alternatively, according to the THC Method, the tester may recalibrate the test measurement system as in Section 8.4 of the THC Method and report the results using both sets of calibration data (i.e., data determined prior to the test period and data determined following the test period). As the calibration results were all within the tolerances of the THC Method (indicating that the data were valid as prescribed by the THC Method) the tester, in this case Elemental Air, did not have to resort to either invalidating the results or providing results based on two sets of calibrations, because the data were not out of specification.
18. Separately, the test report also contained sufficient raw data (without drift correction) to recompute the results in unit production terms (i.e., lb/ton steel). The calculation to convert parts per million THC data to lb/ton steel was contained in the report and by applying simple arithmetic to the raw THC data, EPA can easily calculate the non-drift corrected emission rates in units of lbs/ton of steel. I would also note that because the drift values were all in tolerance, the drift correction adjustment was small and thus EPA would find that the drift corrected and raw THC results in units of lbs/ton of steel will be similar.
19. Overall, the data and results provided in the subject test report contain valid data.

20. As this test result provides valid data and EPA had the uncorrected (raw) data within this same report, EPA should not have invalidated the result and instead should have incorporated these results in setting the respective Basic Oxygen Process Furnace THC MACT floor pool to calculate the Upper Predictive Limit in establishing the THC MACT standard for Basic Oxygen Process Furnaces.

I declare (or certify, verify, or state) under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Sincerely,

Paul Murphy
Managing Consultant
Trinity Consultants Inc.
Executed September 17, 2024

EXHIBIT L:

Supplemental Declaration of David Mysko (Sept. 17, 2024) ("Mysko Supp. Decl.")

DECLARATION OF DAVID MYSKO, P.E.

1. My name is David Mysko. I am a Senior Consultant for Hatch Associates Consultants, Inc. ("Hatch").

2. Hatch is a professional services company serving the metals, energy and infrastructure sectors. Working in partnership with our clients, we combine our vast engineering and business knowledge, to develop market strategies, manage and optimize production, develop new game-changing technologies, and design and deliver complex capital projects.

3. I have 30 years of experience in the industry, the last 22 of which have been working for Hatch. Most of this experience has been in major project delivery in the Iron and Steel industry, with a focus area on air pollution emission control projects. I am familiar with state, federal and international environmental regulations and permitting. My technical background and experience has focused on air pollution system design and troubleshooting. My experience in project management has included all phases of project delivery, from conceptual and detailed engineering design to field construction oversight and commissioning. I am a licensed Professional Engineer, initially registered in Pennsylvania in 2001, and since have also obtained licensure in 9 other states (AZ, AR, GA, ID, IL, MD, MI, NC and SC).

4. The US Environmental Protection Agency's ("EPA") final rule *National Emissions Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing Facilities Technology Review*, 89 Fed. Reg. 23294, (April 3, 2024) (the "Final Rule") establishes, in part, new and/or more stringent Hazardous Air Pollutants ("HAP") emission limits purportedly based on Maximum Achievable Control Technology ("MACT"). These limits apply at Blast Furnaces, Basic Oxygen Process Furnaces ("BOPF"), and Sinter/Recycling Plants at Integrated Iron and Steel ("II&S") manufacturing facilities.
5. Cleveland-Cliffs Inc. ("Cliffs") operates five II&S manufacturing facilities with 8 Blast Furnaces, 7 Basic Oxygen Process Furnace facilities (operating 15 vessels in total), and two Sinter/Recycling Plants affected by the Final Rule. I previously prepared a Declaration on June 13, 2024 supporting a stay of the Final Rule on the basis that development and installation of novel technologies will be required at each of these emission units to comply with the HAP limits in the Final Rule. Specifically,
    a. For the affected emission units below, no known technically feasible emission control options exist anywhere in the world so completely novel technology will need to be developed to address:
        i. Carbonyl sulfide ("COS") emissions at Sinter/Recycling Plants;
        ii. Hydrogen Chloride ("HCl") and Total Hydrocarbon ("THC") emissions at Blast Furnace Casthouses;
        iii. HCl and THC emissions at Blast Furnace Stoves; and
        iv. Dioxin/furan ("D/F"), HCl and THC emissions at Basic Oxygen Process Furnaces.
    b. For Sinter/Recycling Plants with a wet scrubber, which is present at Cliffs' Burns Harbor facility, EPA asserts that activated carbon injection ("ACI") is feasible to comply with the new HAP limits. ACI, however, is not technically feasible as a direct add-on control (due to the existing upstream wet scrubber). Instead, an entirely new sinter plant windbox emission control system will be required to be

developed in combination with ACI and a dry sorbent injection (DSI) system to continuously comply with the new HAP emission limitations in the Final Rule.

c. For a BOPF with a wet scrubber (which is present at Indiana Harbor No. 4 Steel Producing), a new dry Electrostatic Precipitator (ESP) and recirculating baghouse system with injected lime and ACI will be required to be developed to address the following regulated HAPs: THC, D/F, and HCl emissions.
d. For a BOPF with an existing dry ESP (which is present at Indiana Harbor No. 3 Steel Producing), an additional new recirculating baghouse system with injected lime and ACI will be required to be developed to address the following regulated HAPs: THC, D/F, and HCl emissions.

e. Given that the compliance deadline for the new Final Rule is less than 3 years away (by April 2027), if the rule is not stayed, the II&S sector will be required to undergo significant efforts at an estimated cost of hundreds of millions of dollars, based on my extensive engineering experience in this area, to develop and implement novel compliance solutions to the existing Final Rule requirements. My conclusions were based on an evaluation of the engineering changes to the current emission control systems at Cliffs' II&S facilities necessary to comply with the Final Rule, as discussed in detail in my June 13, 2024 Declaration.

6. My June 13, 2024 Declaration was included as Exhibit F to the Motion for Stay filed by Cliffs on June 28, 2024 in the D.C. Circuit Court of Appeals case captioned *Cleveland-Cliffs Inc. v. U.S. Environmental Protection Agency, et al.*, Consol. Case No. 24-1170 [Doc. No. 2062303].

7. As noted in my prior Declaration, development and implementation of novel technologies at commercial scale will require a long development period prior to the initiation of typical capital project delivery steps (source testing, concept development, engineering, procurement, construction, commissioning and ramp-up, etc.). Common capital project delivery steps for a major emission control project of this scale typically require 2 – 3 years to implement. The research and development required to conceive of, test and validate a novel solution which does not exist today could easily add another 2-3 years to this typical implementation timeline, provided that a solution is identified.
8. A challenging aspect for both Sinter Plant and BOPF emissions control is that the emitted pollutants and levels from these processes are not only dictated by the production equipment and emission control equipment, but also by the feed materials. These processes are both fed a variety of externally and internally recycled materials, the content of which can be highly variable. With highly variable feed and variable resulting emissions, testing programs to adequately determine the range of potential emissions must be extensive and range over a long period of time to ensure that the full range of potential emissions are identified. While individual test results may demonstrate that some current emission levels are below those proposed in the Final Rule (without any additional add on controls) these compliance levels may not be maintained under different feed material compositions.
9. The engineering capital project delivery steps for research, development and implementation of novel technology to (hopefully) achieve compliance with the new HAP limits in the Final Rule will require:

a. Additional source testing to ascertain emissions loading, characterization, and variability for regulated sources.
b. Research & Development ("R&D") to assess various technologies from a technical feasibility and cost effectiveness viewpoint.
c. Pilot testing to validate R&D results.
d. Identification and determination of site-specific physical and operational retrofit constraints for each source being controlled.
e. Front-end engineering for full scale implementation with development of permit application.
f. Receipt of pre-construction permit
g. Procurement of parts and equipment.
h. Fabrication of new air pollution control equipment.
i. Retrofitting of existing operations to accommodate new construction.
j. Construction of new air pollution control equipment.
k. Startup and shakedown for new air pollution control equipment.
l. Acceptance and verification testing of air pollution control equipment.
m. Performance testing to demonstrate compliance.

10. Based on my extensive engineering experience in this industry, a preliminary Gantt chart of this process for either a new Sinter Plant or BOPF primary control system composed of a new dry ESP and reagent injected recirculating baghouse is provided below. This chart demonstrates the anticipated duration of this novel process implementation. As can be seen in the chart below, with the extensive testing and development work required to identify and validate a control approach, this project implementation timeline stretches over a 6-year period.

		Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
	Activity	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
a.	Source Testing Program																								
b.	Assessment of available options and selection of most viable technology																								
c.	Development of Pilot Test Facility																								
d.	Pilot testing to validate selected option																								
e.	Identification of site specific scope and location (freeze scope)																								
f.	FEED for full scale implementation with submittal of permit application																								
g.	Receipt of pre-construction permit																								
h.	Procurement of Equipment and Construction Services																								
i.	Fabrication of equipment and materials																								
j.	Retrofitting of existing operations to accommodate new construction.																								
k.	Installation of new equipment and facilities																								
l.	Startup and shakedown for new air pollution control equipment.																								
m.	Acceptance and verification testing of air pollution control equipment.																								
n.	Performance testing to demonstrate compliance.																								

11. To be considered fully in compliance with the new HAP limits in the Final Rule, each of the affected emission units at Cliffs' five II&S facilities must complete all the above engineering steps, including obtaining the necessary environmental permitting for installation (timing for the issuance of the permit is outside of Cliffs' control), and attain test results demonstrating full compliance, by the Final Rule HAP compliance deadline of April 3, 2027.
12. The initial steps requiring additional stack testing and R&D, which includes associated engineering and pilot testing, must commence immediately given the novel technology across multiple emission unit types that must be completed.

13. It would be extremely challenging, if not impossible, to meet the April 3, 2027 compliance deadline with work beginning immediately. Any delay in the steps outlined above would certainly prevent Cliffs from achieving timely compliance as required by the Final Rule.

I declare (or certify, verify, or state) under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Sincerely,

David Mysko, P.E.
Senior Consultant Hatch Associates Consultants, Inc.
September 17, 2024

EXHIBIT M:

Supplemental Declaration of Mike Remsberg
(Sept. 17, 2024)
("Remsberg Supp. Decl.")

Declaration of Mike Remsberg, Trinity Consultants

1. My name is Adrian "Mike" Remsberg, Jr. I am a consulting engineer for Trinity Consultants Inc. (Trinity) and serve as a Divisional President.

2. I hold a degree in Chemical Engineering and, as a consulting engineer, I am an expert in Clean Air Act (CAA) compliance solutions including for National Emissions Standard for Hazardous Air Pollutants (NESHAP) standards and industrial air pollution control.

3. I have 35 years of experience with steel manufacturing and numerous other heavy industries in estimating, identifying, and scoping air pollution controls, and ensuring sources comply with NESHAPs.

4. Trinity is a leading national provider of CAA compliance services to regulated sources where I work with a team of more than 600 consulting engineering and science professionals. Trinity has provided CAA compliance solutions to regulated entities for more than 50 years.

5. On April 3, 2024, the US Environmental Protection Agency (EPA) promulgated final amendments to the *National Emissions Standard for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing Facilities Technology Review* (see 89 FR 23294), commonly referred as the "II&S MACT". EPA indicated that the Agency was obligated to amend the existing technology review standards promulgated in 2020 based on the D.C. Circuit Court's *LEAN* decision.[1] EPA did not, however, change its determination "*[i]n the 2020 final rule, [that] the Agency found that risks due to emissions of air toxics from this source category were acceptable and concluded that the NESHAP provided an ample margin of safety to protect public health*."[2]

6. On August 14, 2024, EPA initiated a partial reconsideration of the II&S MACT on certain narrow issues at this time.[3] However, this effort provides no comfort to the regulated entities on numerous material aspects of the final rulemaking where the timing and outcome of such reconsideration remains unknown meanwhile the harm and risks of the

[1] EPA stated: "*The purpose of this rule is to (1) fulfill the EPA's statutory obligations pursuant to CAA section 112(d)(6); see Louisiana Environmental Action Network v. EPA, 955 F.3d 1088 (D.C. Cir. 2020) ("LEAN"), and (2) improve the emissions standards for this source category based on new information regarding developments in practices, processes, and control technologies.*" 89 FR 23294 (April 3, 2024) at 23295.

[2] See 89 FR at 23298-23299: "*Although the 2020 NESHAP found the risks acceptable and no new requirements should be imposed, new data was collected via a CAA section 114 request to industry after re-opening the rule, due to the LEAN court decision.*" In the current rulemaking "***EPA is not . . . revising its prior risk assessment results and conclusions***". 89 FR 23312 {emphasis added}.

[3] Letter from EPA Assistant Administrator, Joseph Goffman, to Ms. Lianne Mantione, Mr. John Lazzaretti, and Mr. James Pew, dated August 14, 2024.

current standards accrue as the regulatory compliance date deadline remains fixed and grows closer each day.

7. In this rulemaking, EPA amended the 2020 II&S MACT standard to "gap-fill" existing standards for two main categories of sources: Hazardous Air Pollutant (HAP) emission limits for point sources (i.e., process emissions that exhaust through discrete openings to the atmosphere), and visible emission (opacity) limits and work practice standards for UFIP sources.

8. As industry raised in their petition for reconsideration, EPA provided a new and unclear definition of an unplanned bleeder event in the final II&S MACT rulemaking. In the partial reconsideration, EPA indicates their intent to correct this deficiency in the rulemaking via a future Federal Register notice. As stated in EPA's partial reconsideration letter:

> "*… in light of certain errors and ambiguities in the II&S Final Rule that were brought to our attention by your reconsideration petitions, we intend to issue a correction notice within the next few months to do the following things:*
>
> - *Clarifying that the definition of an unplanned bleeder valve opening includes only those openings that are not located downstream from a control device (i.e., "dirty bleeder valve openings"); …"*[4]

9. On June 18, 2024, I provided a declaration related to these matters that I hereby incorporate by reference. This declaration addresses information provided in the pending case record and EPA's Partial Reconsideration that have occurred since June 18, 2024.

10. Trinity's data analysis shows that the record still does not support EPA's MACT Floor determinations for UFIP sources even when considering what EPA specifically intends to correct in its current partial reconsideration:
    a. <u>New MACT Floor Limits for Unplanned Bleeder Valve Openings.</u> As shown in Table 1 and Figures 1 and 2, data reviewed by Trinity shows that three of the four MACT Floor large BFs and six out the six small BFs cannot achieve the limitation.[5] Therefore, the MACT Floor limitation for unplanned valve openings is not achievable

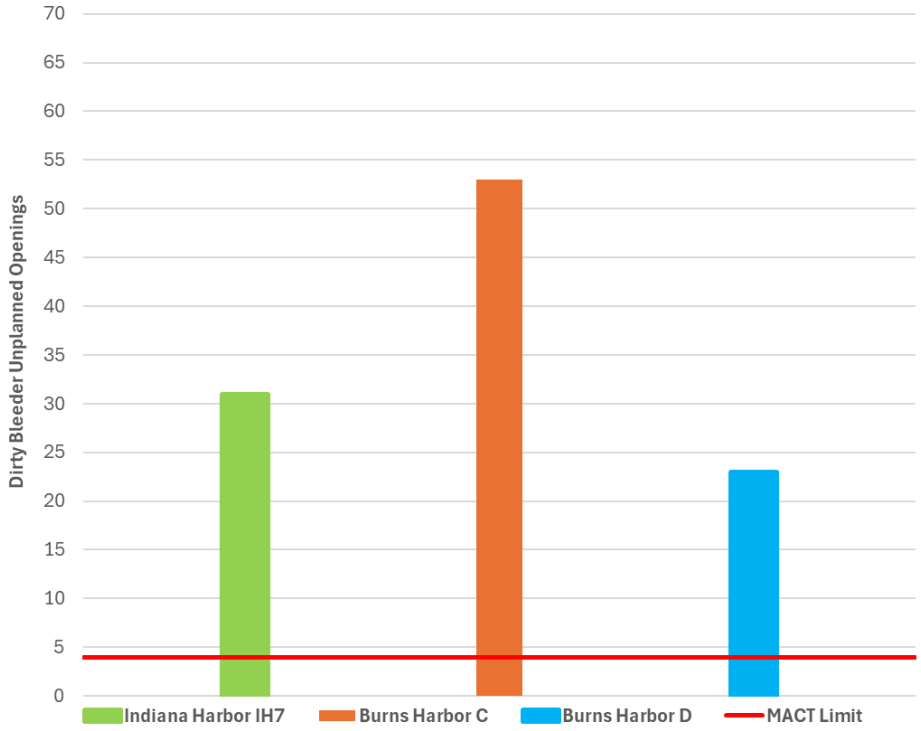
[4] Letter from EPA Assistant Administrator, Joseph Goffman, to Ms. Lianne Mantione, Mr. John Lazzaretti, and Mr. James Pew, dated August 14, 2024. Page 2.
[5] The conclusion on small BFs relies on data collected after the final rule was issued.

for MACT Floor sources in either subcategory even when taking into account EPA's intent to correct the rule.

Table 1. Summary of Unplanned Bleeder Valve Opening MACT Floor Sources Unable to Achieve EPA Final MACT Floor Limits

Affected Source	EPA's Final MACT Floor Limit for Existing Sources	Number of MACT Floor Sources That Do Not Achieve the Final Standard
Unplanned Bleeder Valve Openings	4 openings per year for large BFs	3 of 4 ***cannot*** achieve the limit
Unplanned Bleeder Valve Openings	15 openings per year for small BFs	All 6 units with data analyzed in the reconsideration ***cannot*** achieve the limit[6]

Figure 1: Dirty Bleeder Unplanned PRD Openings for Large Blast Furnaces versus MACT Limit Reconsideration Record Dataset



Notes:

1. Data shown on this graph represents the highest annual number of dirty bleeder unplanned PRD openings for each MACT floor source during 2021-2023.

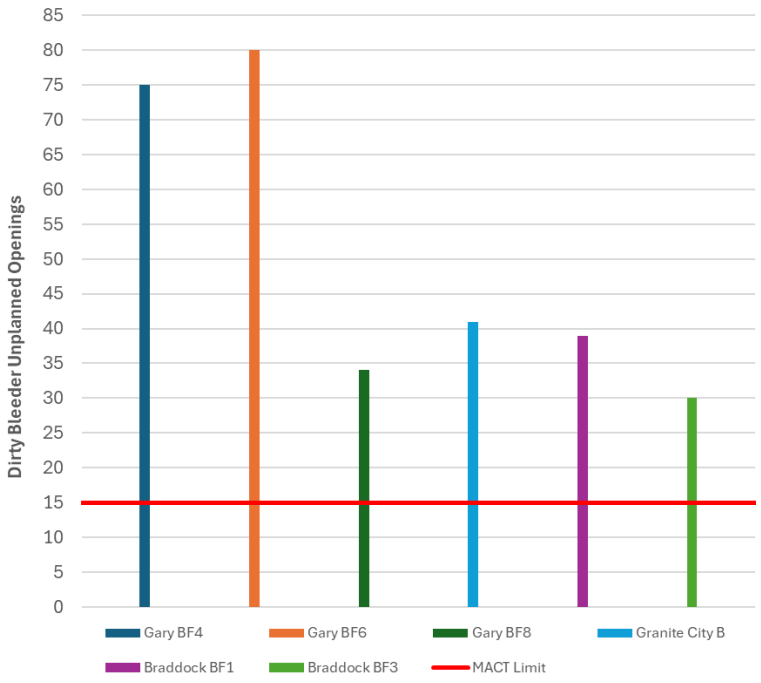
2. Data shown on this graph represents data gathered in the administrative record through the reconsideration process.

3. Unplanned bleeder opening events considers all individual openings and does not consolidate openings within a 30-minute period into a single event.

4. The only data available for one for the MACT floor sources (Gary BF14) indicates there were 0 openings in 2021.

[6] The MACT Floor for small BFs would consist of the five best performing sources. US EPA established a MACT Floor based on data for a single year as requested in the Information Collection Request (ICR). With new data provided through the reconsideration dataset, this MACT Floor is no longer accurate. All six sources with data are included and as shown in Figure 2, all MACT Floor sources do not achieve the final standard regardless of which sources are considered the MACT Floor.

Figure 2: Dirty Bleeder Unplanned PRD Openings for Small Blast Furnaces versus MACT Limit Reconsideration Record Dataset



Notes:

1. Data shown on this graph represents the highest annual number of dirty bleeder openings during 2018-2021.

2. Data shown on this graph represents data gathered in the administrative record through the reconsideration process.

3. Gary BF 4 was down from March 31, 2020 through December 2, 2020. Opening data for 2020 was extrapolated to a full year.

4. Gary BF 6 was down from April 29, 2020 through July 5, 2020. Opening data for 2020 was extrapolated to a full year.

5. Gary BF 6 was down from October 1, 2021 through November 15, 2021. Opening data for 2021 was extrapolated to a full year.

6. Gary BF 8 was down from April 7, 2020 through July 30, 2020. Opening data for 2020 was extrapolated to a full year.

7. Granite City B only operated for six months in 2018. Opening data for 2018 was extrapolated to a full year.

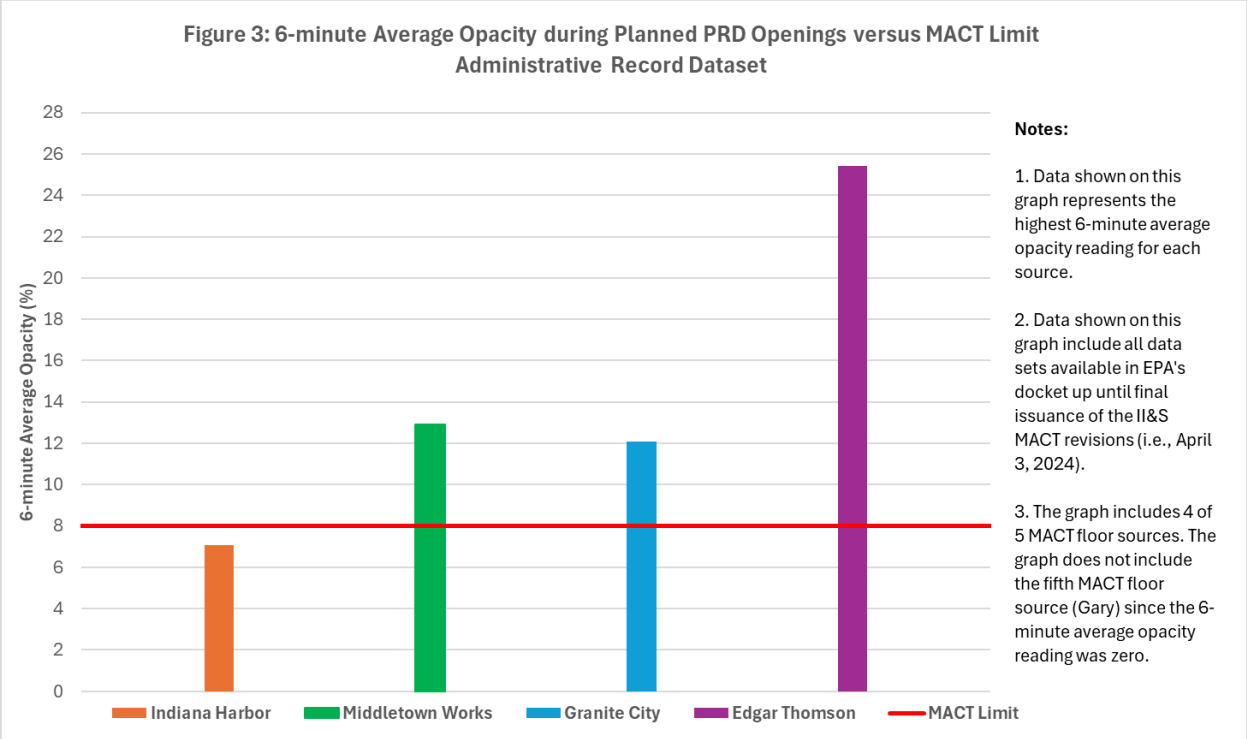
8. Unplanned bleeder opening events considers all individual openings and does not consolidate openings within a 30-minute period into a single event.

b. New MACT Floor Limit for Planned Bleeder Valve Openings. As shown in Table 2 and Figure 3, data reviewed by Trinity shows that three of the five MACT Floor BFs cannot achieve the limitation. Therefore, the MACT Floor opacity limitation for planned valve openings is not achievable for MACT Floor sources.

Table 2. Summary of Planned Bleeder Valve Opening MACT Floor Sources Unable to Achieve EPA Final MACT Floor Limits [7]

Affected Source	EPA's Final MACT Floor Limit for Existing Sources	Number of MACT Floor Sources That Do Not Achieve the Final Standard
Planned Bleeder Valve Openings	8% opacity (6-minute average)	3 of 5 ***cannot*** achieve the limit

[7] Adapted from Table ES-1. Summary of MACT Floor Sources Unable to Achieve EPA Final MACT Floor Limits, Attachment A - Trinity II&S Final Rule Technical Report – UFIPs and Fenceline Monitoring, to Petition for Reconsideration and Request for Administrative Stay of *the National Emission Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing Facilities Technology Review*, 89 Fed. Reg. 23294. (April 3, 2024).



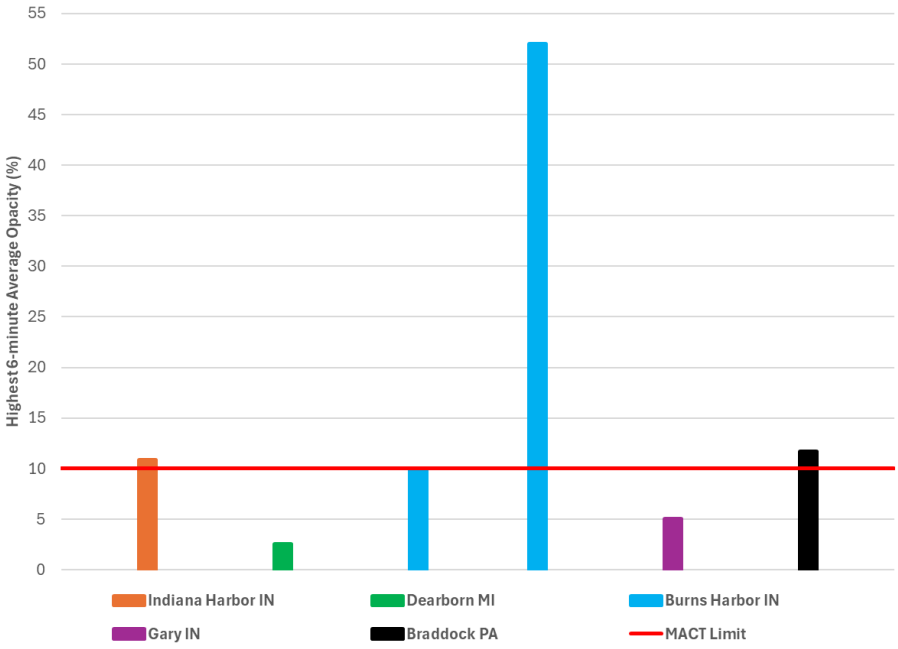
c. As shown in Table 3 and Figure 4, data reviewed by Trinity shows that three of the five MACT Floor BFs cannot achieve the limitation. Therefore, the MACT Floor opacity limitation for slag operations is not achievable for MACT Floor sources.

Table 3. Summary of MACT Floor Slag Operations Sources Unable to Achieve EPA Final MACT Floor Limits[8]

Affected Source	EPA's Final MACT Floor Limit for Existing Sources	Number of MACT Floor Sources That Do Not Achieve the Final Standard
Slag Operations	10% opacity (6-minute average)	3 of 5 ***cannot*** achieve the limit

[8] Adapted from Table ES-1. Summary of MACT Floor Sources Unable to Achieve EPA Final MACT Floor Limits, Attachment A - Trinity II&S Final Rule Technical Report – UFIPs and Fenceline Monitoring. Petition for Reconsideration and Request for Administrative Stay of *the National Emission Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing Facilities Technology Review*, 89 Fed. Reg. 23294. (April 3, 2024).

Figure 4: MACT Floor Sources Highest 6-minute Average Opacity during Slag Operations versus MACT Limit
Administrative Record Dataset



Notes:

1. Data shown on this graph represents the single highest 6-minute average opacity reading for each MACT floor source from EPA's docket up until final issuance of the II&S MACT amendments (i.e., April 3, 2024).

2. 3 of 5 MACT floor sources cannot meet final limits. Although the MACT floor data only shows 2 of 5 MACT floor sources cannot meet the limit, EPA had offsite observation data conducted on September 28, 2022 for Cleveland Cliffs Burns Harbor which indicated 52% opacity (as shown in Figure 1) addressed through US EPA enforcement.

3. EPA's methodology for calculating the MACT floor emission limit for slag operations does not properly account for variability. The failure of the opacity limit for slag operations to account for variability is further demonstrated by additional Method 9 opacity testing conducted by Cleveland-Cliffs following the ICR.

11. As illustrated above, there is a substantial amount of information in the record demonstrating that the UFIP standards and work practices are unachievable by the best performing sources. Sources unable to achieve compliance with the final standards may require the development and implementation of control equipment or control measures that has never been applied in the II&S industry.[9]

12. For all the above reasons, the effective date of the Final Rule should be stayed pending judicial review.

I declare (or certify, verify, or state) under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Sincerely,

Adrian M. Remsberg Jr.
Divisional President
Trinity Consultants Inc.
Executed September 17, 2024

[9] See discussion in Item 15 from June 18, 2024, Remsberg Declaration.

EXHIBIT N:

Declaration of Von L. Baum Jr. (Sept. 16, 2024) ("Baum Decl.")

DECLARATION OF VON L. BAUM JR.

1. My name is Von L. Baum Jr. I am the Senior Manager Engineering for Cleveland-Cliffs Burns Harbor, an integrated iron and steel manufacturing facility in Burns Harbor, Indiana.

2. As Senior Manager Engineering, I develop and manage capital projects to improve Cleveland-Cliffs safety, sustainability, our product portfolios and improve the efficiency of operations quality and costs. We deliver projects safely that are on time, on budget, and meet the project schedule and objectives.

3. I have over 38 years with Cleveland-Cliffs, and its predecessor. I began my career in 1986 as a project engineer [and have been promoted through the ranks to my current role as Senior Manager Engineering at Burns Harbor.

4. My engineering experience includes the engineering and implementation of new air pollution controls at Burns Harbor necessary to achieve compliance with new Hazardous Air Pollutant ("HAP") emission limits established by the US Environmental Protection Agency's ("EPA") *National Emissions Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing Facilities*, 68 Fed. Reg. 27,646 (May 20, 2003) ("2003 Final Rule"), which was the first of this kind of rulemaking for the integrated iron and steel manufacturing source category.

5. Under the 2003 Final Rule, affected sources had three years, until May 22, 2006, to comply with the new emission limits. The 2003 Final Rule anticipated that some facilities would need to install new capture and control systems and perform significant upgrades of primary emission control systems to achieve compliance.

6. To comply with the 2003 Final Rule, it was necessary for Burns Harbor to design, engineer, retrofit and install a new secondary emissions capture system and baghouse at its Basic Oxygen Process Furnace shop. Even though this technology was not novel in the industry, the total time from project initiation to project compliance and demonstrated compliance was nearly eight years.

7. Attached is a Gannt chart that summarizes the key milestones from that capital project.

8. The EPA's new final rule, *National Emissions Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing Facilities Technology Review*, 89 Fed. Reg. 23294, (April 3, 2024) (the "2024 Final Rule") establishes, in part, new and/or more stringent HAP emission limits purportedly based on Maximum Achievable Control Technology ("MACT"). These limits apply to Blast Furnaces, Basic Oxygen Process Furnaces, and Sinter/Recycling Plants at II&S manufacturing facilities, including Burns Harbor.

9. Based on prior experience with the design, engineering, and installation of controls under this rule, and my extensive engineering experience otherwise, I expect that it will take at approximately 8 years, to develop and retrofit new emission unproven emission control technologies under the 2024 Final Rule.

10. Because EPA is implementing HAP emission limits that are unachievable without the installation of unproven technologies based, Cleveland-Cliffs will suffer irreparable harm because it must design and install new air emissions control technology in the coming months and years, at exorbitant cost, to attempt to achieve infeasible HAP standards without sufficient time under the 2024 Final Rule's compliance schedule.

I declare (or certify, verify, or state) under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Sincerely,

Von Baum

Von L. Baum Jr.
Senior Manager Engineering
Cleveland-Cliffs Burns Harbor
Executed September 16, 2024

DECLARATION OF VON L. BAUM JR.

September 16, 2024

	Activity	2001				2002				2003				2004				2005				2006				2007				2008			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
a.	Source Testing Program																																
b.	Assessment of available options and selection of most viable technology																																
c.	Development of Pilot Test Facility																																
d.	Pilot testing to validate selected option																																
e.	Identification of site specific scope and location (freeze scope)																																
f.	FEED for full scale implementation with submittal of permit application																																
g.	Preconstruction permit																																
h.	Procurement of Equipment and Construction Services																																
i.	Fabrication of equipment and materials																																
j.	Retrofitting of existing operations to accommodate new construction																																
k.	Installation of new equipment and facilities																																
l.	Startup and shakedown for new air pollution control equipment																																
m.	Acceptance and verification testing of air pollution control equipment																																
n.	Performance testing to demonstrate compliance																																

EXHIBIT O:

American Forest & Paper Association, et al., Emergency Application for Immediate Stay of Final Agency Action Pending Disposition of Petition for Review, *Ohio v. EPA* (Oct. 13, 2023)
("American Forest & Paper Emergency App.")

No. 23A_____

In the Supreme Court of the United States

AMERICAN FOREST & PAPER ASSOCIATION; AMERICA'S POWER; ASSOCIATED ELECTRIC COOPERATIVE, INC.; DESERET POWER ELECTRIC COOPERATIVE; MIDWEST OZONE GROUP; NATIONAL MINING ASSOCIATION; THE NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION; OHIO VALLEY ELECTRIC CORPORATION; THE PORTLAND CEMENT ASSOCIATION; WABASH VALLEY POWER ALLIANCE,

Applicants,

v.

ENVIRONMENTAL PROTECTION AGENCY AND MICHAEL S. REGAN, ADMINISTRATOR,

Respondents.

EMERGENCY APPLICATION FOR IMMEDIATE STAY OF FINAL AGENCY ACTION PENDING DISPOSITION OF PETITION FOR REVIEW

To the Honorable John G. Roberts, Jr.,
Chief Justice of the Supreme Court of the United States and Circuit Justice for the District of Columbia Circuit

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Counsel for American Forest & Paper Association and Midwest Ozone Group

PARTIES TO THE PROCEEDINGS

A. Parties to this Application

i. D.C. Cir. No. 23-1190, *Am. Forest & Paper Assoc. v. EPA*

Petitioner: American Forest & Paper Association.

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri.

ii. D.C. Cir. No. 23-1191, *Midwest Ozone Group v. EPA*

Petitioner: Midwest Ozone Group.

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri

iii. D.C. Cir. No. 23-1195, *Associated Electric Cooperative, Inc. v. EPA*

Petitioners: Associated Electric Cooperative, Inc.; Deseret Generation & Transmission Co-Operative, d/b/a Deseret Power Electric Cooperative; Ohio Valley Electric Corporation; Wabash Valley Power Association, Inc., d/b/a Wabash Valley Power Alliance; America's Power; National Rural Electric Cooperative Association; Portland Cement Association.

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri

iv. D.C. Cir. No. 23-1199, *National Mining Association v. EPA*

Petitioner: National Mining Association.

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri

B. Additional Parties to these Consolidated Cases

i. D.C. Cir. No. 23-1157, *State of Utah v. EPA*

Petitioner: The State of Utah, by and through its Governor, Spencer J. Cox, and its Attorney General, Sean D. Reyes.

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri; City of New York; Commonwealth of Massachusetts; Commonwealth of Pennsylvania; District of Columbia; Harris County, Texas; State of Connecticut; State of Delaware; State of Illinois; State of Maryland; State of New Jersey; State of New York; State of Wisconsin; Air Alliance Houston; Appalachian Mountain Club; Center for Biological Diversity; Chesapeake Bay Foundation; Citizens for Pennsylvania's Future; Clean Air Council; Clean Wisconsin; Downwinders at Risk; Environmental Defense Fund; Louisiana Environmental Action Network; Sierra Club; Southern Utah Wilderness Alliance; Utah Physicians for a Healthy Environment.

ii. D.C. Cir. No. 23-1181, *Kinder Morgan v. EPA*

Petitioner: Kinder Morgan, Inc.

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri; Commonwealth of Massachusetts; Commonwealth of Pennsylvania; District of Columbia; Harris County, Texas; State of Connecticut; State of Delaware; State of Illinois; State of Maryland; State of New Jersey; State of New York; State of Wisconsin; City of New York.

iii. D.C. Cir. No. 23-1183, *State of Ohio v. EPA*

Petitioners: State of Ohio; State of West Virginia; State of Indiana.

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri; City of New York; Commonwealth of Massachusetts; Commonwealth of Pennsylvania; District of Columbia; Harris County, Texas; State of Connecticut; State of Delaware; State of Illinois; State of Maryland; State of New Jersey; State of New York; State of Wisconsin.

iv. D.C. Cir. No. 23-1193, *Interstate Natural Gas Association of America v. EPA*

Petitioners: Interstate Natural Gas Association of America; American Petroleum Institute.

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri.

v. D.C. Cir. No. 23-1200, *American Iron and Steel Institute v. EPA*

Petitioners: American Iron and Steel Institute.

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri.

vi. D.C. Cir. No. 23-1201, *State of Wisconsin v. EPA*

Petitioners: State of Wisconsin.

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri; Sierra Club; Midwest Ozone Group.

vii. D.C. Cir. No. 23-1202, *Enbridge (U.S.) Inc. v. EPA*

Petitioners: Enbridge (U.S.) Inc.

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri.

viii. D.C. Cir. No. 23-1203, *American Chemistry Council v. EPA*

Petitioners: American Chemistry Council; American Fuel & Petrochemical Manufacturers.

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri.

ix. D.C. Cir. No. 23-1205, *TransCanada Pipeline USA Ltd. v. EPA*

Petitioners: TransCanada Pipeline USA Ltd.

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri.

x. D.C. Cir. No. 23-1206, *Hybar LLC v. EPA*

Petitioners: Hybar LLC

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri.

xi. D.C. Cir. No. 23-1207, *United States Steel Corporation v. EPA*

Petitioners: United States Steel Corporation.

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri.

xii. D.C. Cir. No. 23-1208, *Union Electric Company v. EPA*

Petitioners: Union Electric Company, d/b/a Ameren Missouri.

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri.

xiii. D.C. Cir. No. 23-1209, *State of Nevada v. EPA*

Petitioners: State of Nevada.

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri.

xiv. D.C. Cir. No. 23-1211, *Arkansas League of Good Neighbors v. EPA*

Petitioners: Arkansas League of Good Neighbors.

Respondents: The United States Environmental Protection Agency; Michael S. Regan, EPA Administrator.

Intervenors: City Utilities of Springfield, Missouri.

CORPORATE DISCLOSURE STATEMENT

Pursuant to Rule 29.6, applicants state as follows:

AMERICAN FOREST & PAPER ASSOCIATION

The American Forest & Paper Association ("AF&PA") is a continuing association of individuals operated for the purpose of promoting the general interests of its membership. The AF&PA represents nearly 87% of the pulp, paper, packaging, and tissue products industry which employs 925,000 skilled workers. The AF&PA is a trade association and has no outstanding shares or debt securities in the hand of the public. It has no parent company, and no publicly held company has a 10% or greater ownership interest in AF&PA.

AMERICA'S POWER

America's Power is a nonprofit membership corporation organized under the laws of the District of Columbia and is recognized as a tax-exempt trade association by the Internal Revenue Service under Section 501(c)(6) of the Internal Revenue Code. America's Power is the only national trade association whose sole mission is to advocate at the federal and state levels on behalf of coal-fueled electricity, the coal fleet, and its supply chain. America's Power supports policies that promote the use of coal to assure a reliable, resilient, and affordable supply of electricity to meet our nation's demand for energy.

America's Power is a trade association. It has no parent corporation, and no publicly held company owns a 10% or greater interest in America's Power.

ASSOCIATED ELECTRIC COOPERATIVE, INC.

Associated Electric Cooperative, Inc. ("AECI") is a rural electric cooperative that provides wholesale power and high-voltage transmission to its six regional generation and transmission cooperative member-owners. In addition to providing power sales and transmission service to its member cooperatives, AECI also takes and provides transmission service through enabling transmission agreements with and makes off-system power sales to various counterparties in the United States. These six regional generation and transmission cooperatives, in turn, supply wholesale power to fifty-one distribution cooperatives in Missouri, three distribution cooperatives in southeast Iowa, and nine distribution cooperatives in northeast Oklahoma, serving more than 2,000,000 customers at 910,000 meters. AECI has no parent company, and no publicly held company has a 10% or greater ownership interest in AECI.

DESERET POWER ELECTRIC COOPERATIVE

Deseret Generation & Transmission Co-Operative d/b/a Deseret Power Electric Cooperative ("Deseret") certifies that it is a nonprofit, regional generation and transmission cooperative, owned by its five member systems, serving approximately 65,000 customers in Utah, Colorado, Wyoming, Nevada, and Arizona. Neither Deseret, nor its member cooperatives issue stock, and therefore no publicly held company owns 10% or more of their stock.

MIDWEST OZONE GROUP

The Midwest Ozone Group ("MOG") is a continuing association of organizations and individual entities operated to promote the general interests of its membership on matters related to air emissions and air quality. MOG has no parent companies, subsidiaries, or affiliates that have issued shares or debt securities to the public, although specific individuals in the membership of MOG have done so. MOG has no outstanding shares or debt securities in the hands of the public. It has no parent company, and no publicly held company has a 10% or greater ownership interest in MOG.

NATIONAL MINING ASSOCIATION

The National Mining Association ("NMA") is a nonprofit national trade association that represents the interest of the mining industry, including every major coal company operating in the United States. NMA has approximately 280 members, whose interests it represents before Congress, the administration, federal agencies, the courts, and the media. NMA is not a publicly held corporation. It has no parent corporation, and no publicly held company has 10% or greater ownership interest in NMA.

NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

The National Rural Electric Cooperative Association ("NRECA") is the nonprofit national trade association for electric cooperatives. On behalf of its members, NRECA participates in administrative and judicial proceedings involving or affecting its members' interests. NRECA has no parent company, and no publicly

held company has a 10% or greater ownership interest in NRECA. NRECA is an incorporated entity.

OHIO VALLEY ELECTRIC CORPORATION

The Ohio Valley Electric Corporation ("OVEC") is a corporation originally formed by a consortium of utility companies for purposes of constructing and operating electric generating units to serve the electric energy needs of uranium processing facilities owned by the United States Department of Energy. OVEC owns the Kyger Creek generating station in Ohio, and OVEC's wholly owned subsidiary Indiana-Kentucky Electric Corporation owns the Clifty Creek generating station in Indiana. OVEC has no parent company. American Electric Power Company, Inc., and Buckeye Power, Inc., each owns greater than 10% of the equity in OVEC.

PORTLAND CEMENT ASSOCIATION

The Portland Cement Association ("PCA"), founded in 1916, is the premier policy, research, education, and market intelligence organization serving America's cement manufacturers. PCA represents a majority of U.S. cement production capacity. PCA promotes safety, sustainability, and innovation in all aspects of construction, fosters continuous improvement in cement manufacturing and distribution, and generally promotes economic growth and sound infrastructure investment. PCA is a trade association and has no parent corporation, and no publicly held company owns a 10% or greater interest in PCA.

WABASH VALLEY POWER ALLIANCE

Wabash Valley Power Association, Inc. d/b/a Wabash Valley Power Alliance ("WVPA") certifies that it is a nonprofit, generation and transmission cooperative, owned by twenty-three member-owned rural cooperative systems, serving more than 330,000 homes, businesses, farms, and schools – impacting more than a million people – across 50 counties in Indiana, 30 counties in Illinois, and four counties in Missouri. Neither WVPA, nor its member cooperatives issue stock, and therefore no publicly held company owns 10% or more of their stock.

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TO THE HONORABLE JOHN G. ROBERTS, JR., CHIEF JUSTICE OF THE SUPREME COURT OF THE UNITED STATES AND CIRCUIT JUSTICE FOR THE DISTRICT OF COLUMBIA CIRCUIT:

The Applicants, ten industry parties consisting of national trade associations and individual electric generating companies, respectfully request an immediate stay of the Environmental Protection Agency's ("EPA") final rule entitled "Federal 'Good Neighbor Plan' for the 2015 Ozone National Ambient Air Quality Standards," 88 Fed. Reg. 36,654 (June 5, 2023) ("Federal Plan"). The Applicants have petitions for review of the Federal Plan pending in the United States Court of Appeals for the District of Columbia Circuit and, due to the immediate harm from the Federal Plan, moved for a stay pending that court's review. A divided panel of that court denied the motion, with Judge Walker stating he would have stayed the Federal Plan.

The Applicants agree with and incorporate the Application by Ohio, Indiana, and West Virginia filed with this Court on October 13, 2023. The Applicants will not repeat the States' arguments here but will amplify the reasons why the Federal Plan merits this Court's review, is likely unlawful, and poses immediate and irreparable harm to various industries, including electric generation, paper, steel, cement, and mining, as demonstrated in more detail in the declarations accompanying this application.

INTRODUCTION

This case involves a stubborn refusal by EPA to admit that the legal foundation for a massive, multi-state, regulatory program (the "Federal Plan") is irreparably flawed—as an extraordinary consensus of seven courts of appeals have

recognized. EPA's willful decision to move forward has simultaneously abrogated the rights of States to regulate air pollution within their borders and improperly forced industries regulated by the Federal Plan into the immediate expenditure of hundreds of millions of dollars pending the lower court's review, all while jeopardizing the reliability of the electric grid.

The Clean Air Act's "core principle" is "cooperative federalism." *EPA* v. *EME Homer City Generation, L.P.*, 572 U.S. 489, 511 n.14 (2014). States assume "primary responsibility for assuring air quality…." 42 U.S.C. § 7407(a). EPA may step into the role of the States and issue a rule like the Federal Plan only if EPA lawfully determines that a State's plan violates the statute. *Id.* § 7410(c)(1).

After missing its statutory deadline to review State plans by years, EPA disapproved 21 State plans *en masse*. 88 Fed. Reg. 9336 (Feb. 13, 2023). State and industry commenters informed EPA that those State-plan disapprovals were likely unlawful, and federal courts of appeals began agreeing, swiftly issuing stays of individual state plan disapprovals. Relying on its unlawful state-plan disapprovals as the legal predicate, EPA nevertheless published the Federal Plan for those 21 States, plus an additional two States. 88 Fed. Reg. at 36,654. Ultimately, entities in 12 of the 23 affected States challenged and sought stays of their disapprovals in various courts of appeals. Every single one of those courts (the Fourth,[1] Fifth, Sixth, Eighth, Ninth, Tenth, and Eleventh Circuits) have granted stays.

[1] The stay of the disapproval of West Virginia's State plan is administrative, pending the Fourth Circuit's consideration of that State's stay motion. *West Virginia* v. *EPA*,

When seven courts of appeals find that the legal prerequisite for the Federal Plan is likely unlawful, EPA should realize that something has gone awry. Rather than admit the error of its ways, however, EPA has pressed forward with implementing its Federal Plan in the remaining 11 States—despite the fact that EPA premised the rule on its applicability to 23 states, arguing "[n]ationwide consistency in approach is particularly important in the context of interstate ozone transport…." *Id.* at 36,673. Because of the removal of the 12 stayed States, the Federal Plan is a shell of its original design, eviscerating EPA's analysis underpinning the rule, which addressed only a 23-State program as a whole. In other words, EPA is implementing an 11-state mutant rule that it did not analyze, provide notice of, or take comment on. That momentous action to force its multi-state federal plan, heedless of warnings from court after court that its central pillars are fundamentally unsound, violates the Clean Air Act and the Administrative Procedure Act.

Yet, this irredeemably flawed Federal Plan is now in effect. If this Court does not enter a stay, the Federal Plan will continue to harm the sectors of industry subject to it. By EPA's own estimates, the Federal Plan will cost between $8.2 and $13 billion, with regulated entities like Applicants and their members incurring between $770 and $910 million per year during the course of litigation. *Id.* at 36,852. Costs on individual entities are crushing and are being imposed with full force in the 11 States where the Federal Plan is in effect. For example, just one regulated source, Applicant

---

No. 23-1418 (4th Cir. Aug. 10, 2023) (stay pending argument scheduled for October 27, 2023).

Ohio Valley Electric Corporation, states that it "will begin to incur costs within the next six months" and will be "required to spend between $80-$100 million in the next two years." Brown Decl. ¶¶32, 36. A stay from this Court is the only way for sources subject to the Federal Plan to avoid this irreparable harm.

Accordingly, Applicants respectfully request the Court to enter a stay of EPA's Federal Plan during the pendency of their petitions for review.

OPINION BELOW

The D.C. Circuit's order denying the Applicants' motion for a stay is unpublished and may be found at App'x 1. EPA's Federal Plan is published at 88 Fed. Reg. 36,654 (June 5, 2023) and reprinted beginning at App'x 2. The unpublished order notes that while the majority of the panel comprised of Judges Pillard, Walker, and Childs denied the stay, "Judge Walker would stay the federal implementation plan in question."

JURISDICTION

This Court has jurisdiction over this Application pursuant to 28 U.S.C. § 1254(1) and authority to grant the Applicants relief under the Administrative Procedure Act, 5 U.S.C. § 705, the Clean Air Act, 42 U.S.C. § 7607, and the All Writs Act, 28 U.S.C. § 1651(a).

STATUTORY AND REGULATORY PROVISIONS

Pertinent statutory and regulatory provisions are reprinted beginning at App'x 268.

STATEMENT

I. Statutory Background

Congress embedded directly into the Clean Air Act the principle of cooperative federalism, expressly stating that "[e]ach State shall have the primary responsibility for assuring air quality within the entire geographic area comprising such State…." 42 U.S.C. § 7407(a). EPA establishes national ambient air quality standards ("NAAQS") for certain pollutants, including ozone. *Id.* §§ 7408, 7409. Each State then must develop within three years a State implementation plan that "specif[ies] the manner in which [the NAAQS] will be achieved and maintained." *Id.* §§ 7407(a), 7410(a)(1).

These plans must satisfy several statutory requirements, including the Act's "Good Neighbor" provision. *Id.* § 7410(a)(2)(D)(i)(I). That provision delegates to each State the task of ensuring no "emissions activity within the State" will emit "in amounts which will … contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any" NAAQS." *Id.*

Once a State develops and submits its plan, EPA "shall approve" the plan within 18 months "if it meets all of the applicable requirements of" the Clean Air Act. *Id.* § 7410(k)(3); *see also Union Elec. Co.* v. *EPA*, 427 U.S. 246, 257 (1976). Only if EPA lawfully determines that a State plan violates the statute may EPA promulgate a "Federal implementation plan" for that State. 42 U.S.C. § 7410(c)(1).

When EPA is permitted to issue a federal plan, it "cannot require a State to reduce its output of pollution by more than is necessary" to ensure the State will not contribute significantly to another State's inability to attain or maintain the NAAQS.

EME Homer, 572 U.S. at 521-22. If EPA does, it engages in unlawful "over-control." *Id.* "EPA has a statutory duty to avoid over-control…." *Id.* at 523.

II. EPA's Promulgation of State Implementation Plan Disapprovals and the Federal Plan

In 2015, EPA lowered the NAAQS for ozone from 75 to 70 parts per billion. 80 Fed. Reg. 65,292, 65,293-94 (Oct. 26, 2015). This required States to develop implementation plans for the revised NAAQS, including plans addressing the Good Neighbor provision, within three years (*i.e.*, by October 26, 2018). 42 U.S.C. § 7410(a)(1). After States submitted their plans, EPA had a statutory duty to approve or disapprove them within eighteen months (*i.e.*, no later than April 2020). *Id.* § 7410(k)(1)-(3). After blowing past this statutory deadline by years, EPA issued proposed disapprovals for 19 States on February 22, 2022,[2] followed by proposed disapprovals for an additional four States on May 24, 2022.[3] Commenters repeatedly warned EPA that these proposed disapprovals were unlawful because they were based on unlawful reasoning. *See, e.g.*, EPA, 2015 Ozone NAAQS Interstate Transport SIP Disapprovals – Response to Comment (RTC) Document at 12, 15, 29, 33, 57, 81, 189, *available at* https://t.ly/ikB1A.

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[2] 87 Fed. Reg. 9545 (Feb. 22, 2022) (Alabama, Mississippi, Tennessee); 87 Fed. Reg. 9798 (Feb. 22, 2022) (Arkansas, Louisiana, Oklahoma, Texas); 87 Fed. Reg. 9838 (Feb. 22, 2022) (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin); 87 Fed. Reg. 9498 (Feb. 22, 2022) (Kentucky); 87 Fed. Reg. 9463 (Feb. 22, 2022) (Maryland); 87 Fed. Reg. 9533 (Feb. 22, 2022) (Missouri); 87 Fed. Reg. 9484 (Feb. 22, 2022) (New York, New Jersey); 87 Fed. Reg. 9516 (Feb. 22, 2022) (West Virginia). Comments on each of these proposals were due on April 25, 2022.

[3] 87 Fed. Reg. 31,443 (May 24, 2022) (California); 87 Fed. Reg. 31,485 (May 24, 2022) (Nevada); 87 Fed. Reg. 31,470 (May 24, 2022) (Utah); 87 Fed. Reg. 31,495 (May 24, 2022) (Wyoming). Comments on each of these proposals were due on July 25, 2022.

Before the deadline for submitting comments on the proposed disapprovals of the State plans had even expired (and before EPA had even proposed to disapprove some of the States' plans), EPA proposed a comprehensive *federal* implementation plan to regulate emission sources through a single multi-state program. 87 Fed. Reg. 20,036, 20,073 (Apr. 6, 2022) (noting it was "promulgating FIPs to address these obligations on a nationwide scale"). Commenters again repeatedly warned EPA that going forward with a federal plan would be unlawful because the state-plan disapprovals—which are the legal predicate of a federal plan under the Clean Air Act—were unlawful. *See* 88 Fed. Reg. at 36,672-75; EPA, Federal "Good Neighbor Plan" for the 2015 Ozone National Ambient Air Quality Standards: Response to Public Comments on Proposed Rule [87 FR 20036, April 6, 2022] at 2-6, 9-11, 145-48, 152-55, *available at* bit.ly/3EaNAi8.

Despite the warnings regarding the unlawful nature of EPA's proposed disapproval, the Agency finalized the disapprovals of the plans for 21 States in February 2023. 88 Fed. Reg. 9336 (Feb. 13, 2023). A mix of states and industry parties in 12 States challenged their state-plan disapprovals in their respective circuits and moved for stays of the disapprovals. By late May 2023, the Fifth Circuit, Sixth Circuit, and the Eighth Circuit had issued stays of the disapprovals for five States,[4]

[4] *Texas v. EPA*, No. 23-60069 (5th Cir. May 1, 2023) (Texas and Louisiana); *Arkansas v. EPA*, No. 23-1320 (8th Cir. May 25, 2023); *Missouri v. EPA*, No. 23-1719 (8th Cir. May 26, 2023); *Kentucky v. EPA*, No. 23-3216 (6th Cir. May 31, 2023) (administrative stay pending consideration of stay motion that was granted in July 2023, *see infra* note 5).

concluding that EPA's state plan disapprovals were likely unlawful. Meanwhile, stay motions were pending for various other courts of appeals.

EPA nonetheless moved forward on June 5, 2023, with publishing the Federal Plan, which covers 23 States and became effective August 4, 2023. 88 Fed. Reg. at 36,654. During the time between the publication of the Federal Plan and its effective date, the wave of federal courts of appeals issuing stays of the state plan disapprovals became a tsunami. Every single one of the 12 state-plan disapprovals that was challenged has now been stayed.[5]

In sum, every circuit to have considered the issue—the Fourth, Fifth, Sixth, Eighth, Ninth, Tenth, and Eleventh Circuits—has stayed EPA's disapprovals, explicitly or implicitly finding that the States and industries challenging those disapprovals are likely to succeed on the merits.

III. The Federal Plan Before and After the Court-Ordered Stays of the State Plan Disapprovals

EPA has recognized in two interim final rules that it cannot impose its plan in the 12 States where EPA's state-plan disapprovals have been stayed because those state plan disapprovals form the legal predicate for the Federal Plan.[6] As a result of

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[5] *Texas v. EPA*, No. 23-60069 (5th Cir. June 8, 2023) (Mississippi); *Nevada Cement Company v. EPA*, No. 23-682 (9th Cir. July 3, 2023) (Nevada); *Allete, Inc. v. EPA*, No. 23-1776 (8th Cir. July 5, 2023) (Minnesota); *Kentucky v. EPA*, No. 23-3216 (6th Cir. July 25, 2023); *Oklahoma v. EPA*, No. 23-9514 (10th Cir. July 27, 2023); *Utah v. EPA*, No. 23-9509 (10th Cir. July 27, 2023); *Alabama v. EPA*, No. 23-11173 (11th Cir. Aug. 17, 2023); *West Virginia v. EPA*, No. 23-1418 (4th Cir. Aug. 10, 2023) (administrative stay pending argument scheduled for October 27, 2023).

[6] Federal "Good Neighbor Plan" for the 2015 Ozone National Ambient Air Quality Standards: Response to Judicial Stays of SIP Disapproval Action for Certain States, 88 Fed. Reg. 49,295 (July 31, 2023) (Arkansas, Kentucky, Louisiana, Mississippi,

the removal of these 12 States from the Federal Plan, however, the plan that EPA is now imposing in the remaining 11 States bears little resemblance to the one it proposed, took comment on, and finalized.

This Court in *EME Homer* described EPA's chosen methodology for constructing a federal Good Neighbor plan; EPA started with that same methodology for the Federal Plan at issue here. *See id*. at 36,741, 36,748. Under this methodology, EPA identifies the (upwind) States that its air quality modeling predicted would be contributing more than *de minimis* amounts of ozone to (downwind) States that will have difficulty attaining the NAAQS. *See EME Homer*, 572 U.S. at 500-01. It then determines what emissions controls would be "cost-effective" by calculating which controls would produce the "combined effect … on air quality in downwind States" necessary to eliminate significant upwind ozone contribution, assuming every upwind State uniformly expended the same amounts to control their emissions. *Id.* at 501. "EPA estimated, for example, the amount each upwind State's [ozone-causing] emissions would fall if all pollution sources within each State employed every control measure available at a cost of $500 per ton or less." *Id.* So if upwind States A and B were both linked to downwind State C, EPA's methodology requires the reductions necessary to make upwind contributions to State C insignificant, assuming both

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Missouri, Texas); Federal "Good Neighbor Plan" for the 2015 Ozone National Ambient Air Quality Standards: Response to Additional Judicial Stays of SIP Disapproval Action for Certain States,88 Fed. Reg. 67,102 (Sept. 9, 2023) (Alabama, Minnesota, Nevada, Oklahoma, Utah, West Virginia).

States A and B expended the same amount per tons of emissions in control measures. *See id.* at 519-20.

Next, "[f]or each regulated upwind State, EPA created an annual emissions 'budget,'" which "represented the quantity of pollution an upwind State would produce in a given year if its in-state sources implemented all pollution controls available at the chosen cost thresholds." *Id.* at 502. Thus, the emissions budget for each State stems from EPA's "cost-effectiveness" methodology, which assumes the same expenditure on emissions controls "applied uniformly to all regulated upwind States" to achieve EPA's desired "combined effect" downwind. *Id.* at 501-02. Finally, EPA pairs these budgets with a "cap-and-trade" system allocating each upwind State's "emission budget among its in-state sources" and allowing sources emitting below their allocation to "sell unused 'allocations' to sources" in any other upwind State that is part of the federal plan. *Id.* at 503 & n.10.

EPA thus describes the Federal Plan as a "national-scale, multi-state" federal implementation plan to address "interstate transport of ozone-causing pollutants through a series of integrated multi-state emissions allowance trading programs for power plants [and] uniform requirements for certain, high-emitting non-power plant industrial sources." EPA Resp. to Pet.'s Mot. To Sever, Doc. No. 2018488, *Utah v. EPA*, No. 23-1157 (D.C. Cir. Sept. 22, 2023). Indeed, this is how EPA designed the Federal Plan to operate. *See* 88 Fed. Reg. at 36,673 ("The approach of this [federal implementation plan] ensures both national consistency across all states and consistency and continuity with our prior interstate transport actions for other NAAQS."); *id.* at 36,691 (noting "the purpose of this rule is to address the interstate

transport of ozone on a national scale" and that "upwind regions associated with each receptor typically span at least two, and often far more, states").

The Federal Plan that EPA originally designed no longer exists as a result of the court-ordered stays. Nearly 90% of the power plant emissions that EPA contemplated serving as both the basis for its emissions limitations and for a robust emissions allowance trading market have been removed from the program. Similarly, 60% of the emission reductions from all other sources are now excluded from the Federal Plan. *See* EPA, *Good Neighbor Plan for 2015 Ozone NAAQS Maps*, https://t.ly/zQK9L ("Good Neighbor Maps") (App'x 296-97). Moreover, EPA never analyzed the costs, efficacy, and burdens of the version of the rule it is now implementing. Nor did it ever examine the effect of the removal of 12 states on the trading program for electric generating units.

IV. Differences Between the Federal Plan and Past Federal Implementation Plans

While the Federal Plan is similar to prior federal Good Neighbor plans in some respects, it also creates a host of never-before-seen regulatory programs. As with prior plans, EPA's trading program starts by using "preset emissions budgets" for each State. 88 Fed. Reg. at 36,662. EPA claims the emissions reductions required by each statewide budget are in the amount necessary to eliminate that State's alleged significant contribution to any downwind State's inability to attain or maintain the NAAQS. *Id.* at 36,657, 36,667. But on *top* of those budgets, EPA here decided to impose "enhancements" to require that "pollution controls will be operated" even if

the States would no longer contribute significantly to other States' ozone issues without such operation. *Id.* at 36,662.

For the first time in any interstate transport program, EPA also has subjected non-power generating industries to stringent emission limitations. The Federal Plan covers, among others, cement kilns and boilers in iron mills, steel mills, pulp, paper, and paperboard mills, and pipeline engines. *Id.* at 36,658.

REASONS FOR GRANTING THE APPLICATION

This Court should stay the Federal Plan, which has a legal foundation premised on the disapprovals of State plans that seven Circuits have confirmed are likely unlawful. The 11-State Federal Plan now being implemented was never analyzed by EPA nor made available for notice-and-comment rulemaking.

Under the Administrative Procedure Act, this Court—as a "reviewing court … to which a case may be taken … on application for certiorari or other writ"—"may issue all necessary and appropriate process to postpone the effective date of an agency action." 5 U.S.C. § 705; *see also* 28 U.S.C. §§ 1254, 1651, 2101; *Nken v. Mukasey*, 555 U.S. 1042 (2008). And under "well settled" principles, such "equitable relief" is appropriate here. *Lucas v. Townsend*, 486 U.S. 1301, 1304 (1988) (Kennedy, J., in chambers).

In addition, to the extent required for such relief, there is: "(1) a reasonable probability that four Justices will consider the issue sufficiently meritorious to grant certiorari; (2) a fair prospect that a majority of the Court w[ould] vote to reverse [a] judgment below [upholding the Federal Plan]; and (3) a likelihood that irreparable

harm will result from the denial of a stay." *Hollingsworth v. Perry*, 558 U.S. 183, 190 (2010); *see Nken v. Holder*, 556 U.S. 418, 427-29 (2009).

This Court should stay the Federal Plan pending further review.

I. Applicants Are Likely to Succeed on the Merits in this Case, which Warrants this Court's Discretionary Review.

Given the wide-ranging impact of the Federal Plan and the faulty foundation of unlawful state plan disapprovals on which it rests, this Court would likely grant certiorari in this case and reverse any decision by the D.C. Circuit upholding the Federal Plan. The Federal Plan is an enormous federal regulation with national importance, which EPA itself estimates will cost between $8.2 billion and $13 billion. This Court has granted certiorari in several similarly important Clean Air Act cases arising over the past decade. *See, e.g.*, *West Virginia v. EPA*, 142 S. Ct. 2587 (2022); *Michigan v. EPA*, 135 S. Ct. 2699 (2015); *EME Homer*, 572 U.S. at 506.

More than just the toll on the economy, the Federal Plan also represents an unprecedented abrogation of the congressionally granted rights of States. In remarkable unanimity, seven courts of appeals have found that EPA's disapprovals of 12 State plans, which formed a crucial basis for the 23-State Federal Plan, were likely unlawful. Despite its Federal Plan being fundamentally undermined, EPA insists it remains viable. And now, this gigantically expensive rule has gone into effect in 11 States and will cause irreparable harm to States, industry, and consumers.

Accordingly, this case merits this Court's discretionary review and, for the reasons given below, Applicants are likely to succeed on the merits.

A. The Federal Plan as Promulgated No Longer Exists, and EPA Never Analyzed or Allowed Comment on the Smaller, Transformed Version.

The 23-State Federal Plan is likely to be vacated by the D.C. Circuit or by this Court because it rests on a legally faulty foundation—EPA's disapproval of State plans. Every circuit that has reviewed those disapprovals has issued stays recognizing that EPA's action was likely unlawful. *See supra* at pp. 7-8 & nn. 4, 5. While EPA has removed the 12 States that are the subject of the stays from the Federal Plan, the Federal Plan was premised on inclusion of those States. It thus cannot lawfully be implemented anywhere consistent with the Clean Air Act and the Administrative Procedure Act.

EPA never noticed, analyzed, or took comment upon the 11-State Federal Plan it is now implementing—a clear violation of all the procedures required under the Clean Air Act and the Administrative Procedure Act for notice-and-comment rulemaking. 42 U.S.C. § 7607(d)(3); 5 U.S.C. § 553. Moreover, EPA's insistence on moving forward in the remaining States regardless of this fundamental flaw is almost certain to be held arbitrary and capricious. EPA's attempt to make workable its collapsing Federal Plan by severing the inseverable—as if it would have imposed the same plan on 11 States that it would have if all 23 States were included—is unlawful and contrary to its own statements and analysis justifying its Federal Plan.

1. EPA Premised the Federal Plan on the Inclusion of all 23 States.

The administrative record clearly demonstrates that in many fundamental respects, EPA premised its Federal Plan on the inclusion of all 23 States. EPA's Federal Plan started by distributing emissions limitations among all upwind States

in the Plan by assuming sources within all of those States would impose controls at the same costs. *See supra* at pp. 9-10. As this Court explained, EPA's "cost-effective" methodology assumes the same expenditure on emissions controls "applied *uniformly* to *all* regulated upwind States" at a level sufficient to achieve EPA's desired "*combined* effect" downwind. *EME Homer*, 572 U.S. at 501-02 (emphasis added); *see also* 88 Fed. Reg. at 36,741. EPA justified "[a]pplying these emissions control strategies on a *uniform* basis across *all* linked upwind states" as "an efficient and equitable solution to the problem of allocating upwind-state responsibility for the elimination of significant contribution." 88 Fed. Reg. at 36,741 (emphasis added). It then sets its emissions "budgets" for each State based on this analysis that assumed all 23 States would be included in its Federal Plan. *See EME Homer*, 572 U.S. at 501-02.

In addition to its interdependent state budgets (the "cap" in its "cap-and-trade" program), another fundamental feature of EPA's Federal Plan is its interstate emissions allowance trading program (the "trade"). *See id.*, 572 U.S. at 503 & n.10. Necessarily, EPA's analysis of the benefits and efficiencies of that trading program presumed inclusion of all 23 States in the program. 88 Fed. Reg. at 36,657. EPA itself explained the emissions trading marketplace depended on breadth because "[b]roader marketplaces generally provide greater market liquidity and therefore make trading programs better at providing … advantages" such as "cost minimization" and "operational flexibility." *Id.* at 36,766 n.295; *see also id.* at 36,760 (noting EPA was adopting a trading program "because of the inherently greater flexibility that [it] can provide"); *id.* at 36,771 (responding to commenters concerned with grid reliability by

pointing to the interstate trading program). As with any market, the price of emission allowances depends heavily on the supply of those allowances, and therefore the number of States in the program. *See id.* at 36,775. Indeed, EPA recently stated that "the Plan depends on the continuing operation of 'interdependent' interstate mechanisms, like the allowance trading program, that reach beyond state or regional borders." EPA's Motion to Dismiss or Transfer Petitions for Improper Venue, *Tulsa Cement et al. v. EPA*, at 16, No. 23-9551 (10th Cir. July 20, 2023) ("EPA Motion to Dismiss or Transfer").

Moreover, EPA justified the Federal Plan based on its claimed benefits: the purported "meaningful" air quality improvements that would result "collectively" from the inclusion of all 23 States in the Federal Plan. *See* 88 Fed. Reg. at 36,683; *accord id.* at 37,648; *see also EME Homer*, 572 U.S. at 502. EPA claimed: "When the effects of these emissions reductions are assessed *collectively* …, the *cumulative* improvements in ozone levels at downwind receptors … are both measurable and meaningful…." 88 Fed. Reg. at 36,741 (emphasis added). Indeed, this cumulative analysis was EPA's basis for showing it was acting within the bounds of the Good Neighbor provision: EPA's analysis of "whether the rule achieves a full remedy to eliminate 'significant contribution' while avoiding over-control" was based on "the identified reductions" from all 23 States in the Federal Plan as "*combined and collectively analyzed* to assess their effects on downwind air quality." *Id.* at 36,719 (emphasis added); *see id.* at 36,743, 36,747-48 (listing only the "aggregate" and "collective" air quality improvements); *see also EME Homer*, 572 U.S. at 523.

As EPA describes it, its 23-State Federal Plan is one that is "interstate" and "interdependent." EPA Motion to Dismiss or Transfer at 16. EPA emphasizes that its Federal Plan is a "coordinated, 23-state program … in a long line of national-scale, multi-state federal implementation plans that have addressed interstate transport of ozone-causing pollutants through a series of integrated multi-state emissions allowance trading programs." EPA Resp. to Pet.'s Mot to Sever, Doc. #2018488, *Utah v. EPA*, No. 23-1157 (D.C. Cir. Sept. 22, 2023); *see also* EPA Opp. to Admin. Stay, Doc. #2008854, *Utah v. EPA*, No. 23-1157 at 1 (D.C. Cir. July 20, 2023) (describing the Federal Plan as a "coordinated, interstate emissions control program" covering "23 states"). The premise that the Federal Plan would include all 23 States in an interdependent program undergirded everything from EPA's cost-effectiveness analysis to its benefits determinations and from the emissions caps to the trading program.

2. The Current 11-State Federal Plan Violates the Basic Principles of the Clean Air Act and the Administrative Procedure Act.

EPA is now implementing its interdependent 23-State Federal Plan in only 11 States. It is required to do so because numerous federal courts of appeals have held that EPA likely violated the most basic requirement of the Clean Air Act by undermining the careful balance between state and federal authority that Congress prescribed. *See supra* at p. 5. Despite commenters and courts informing EPA of the Federal Plan's unlawful foundations—the disapproval of individual State plans—EPA published and is implementing it anyway in 11 States. Applicants are likely to succeed in demonstrating EPA's actions are unlawful for at least three reasons.

First, the Federal Plan violates basic requirements of the Clean Air Act and the Administrative Procedure Act by failing to provide notice and comment on an 11-State federal implementation plan rather than the 23-State plan originally contemplated. 42 U.S.C. § 7607(d)(1)(B), (3); 5 U.S.C. § 553(b), (c). The stays of the Federal Plan in 12 States have forced EPA to remove those States from its Plan, but EPA's decision to nonetheless implement an 11-State plan is unlawfully enforcing a rule EPA never proposed, received comments on, analyzed, or lawfully promulgated. As explained above, EPA analyzed only a 23-State plan, justifying many fundamental parts of that Plan on the inclusion of all 23 States. The difference is especially stark because removing 12 States with stays from the Federal Plan means nearly 90% of the power plant emissions reductions and 60% of the non-power plant emission reductions that EPA analyzed as part of its rulemaking are now excluded from the Federal Plan. *See* Good Neighbor Maps at App'x 296-97.

The 11-State plan that is currently being implemented has never been analyzed by EPA. For example, EPA never performed an 11-State analysis of: (i) cost-effective emissions controls (the basis for each State's emissions budget); (ii) the efficacy of the trading program; or (iii) the downwind air quality benefits. *See* 88 Fed. Reg. at 36,666, Table 1.C-1; EPA, Regulatory Impact Analysis for the Final Federal Good Neighbor Plan Addressing Regional Ozone Transport for the 2015 Ozone National Ambient Air Quality Standard at 24-25, *available at* https://t.ly/x6P5l (examining various scenarios none of which involved removal of more than half the States or a State-level analysis). No one—not States, nor members of the public, nor

even EPA itself—has analyzed or commented on this completely altered version of a rule that is now imposing enormous costs.

Second, the Federal Plan is arbitrary and capricious because it "entirely fail[s] to consider an important aspect of the problem…." *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). Namely, EPA failed to appreciate that its state plan disapprovals—the necessary legal predicate for the Federal Plan—are likely unlawful and thus not in effect. The agency never considered the likely scenario that a significant number of its state plan disapprovals would be stayed or vacated, rendering large portions of the Federal Plan inoperable. Commenters alerted EPA to the unlawfulness of the state plan disapprovals, those disapprovals were challenged in a dozen states with litigants moving for stays, and now seven courts of appeals have granted those stays, confirming that those disapprovals were likely unlawful. *See supra* at pp. 7-8 nn. 4, 5. Those court-ordered stays did not make EPA's state plan disapprovals likely unlawful; they simply declared what the law always was, including when EPA finalized the Federal Plan. *See Nat'l Fuel Gas Supply Corp. v. FERC*, 59 F.3d 1281, 1289 (D.C. Cir. 1995). Indeed, three courts stayed the state plan disapprovals in five States *before* EPA published its Federal Plan in the Federal Register. *Supra* at pp. 7-8 & n.4. Yet, EPA entirely failed to reconsider its analysis based on this reality before consummating its final agency action. Despite all of the warnings and everything EPA knew before it published the Federal Plan, EPA charged forward.

This mess is one of EPA's own making. It proposed the Federal Plan before its state plan disapprovals were finalized (or, in some cases, before the disapprovals of

some states' plans had even been proposed), *see supra* at p. 7, began to finalize the Federal Plan despite warnings that the state plan disapprovals were likely unlawful and court challenges to them began to mount, and published the Federal Plan in the Federal Register even after three courts of appeals started declaring its state disapprovals were likely unlawful. That is arbitrary and capricious.

Third, EPA's rulemaking makes no sense with 12 States excised and is thus arbitrary and capricious for this reason too. These 12 States are not severable from EPA's analysis and justifications for the Federal Plan; those things "cannot function sensibly without" including all 23 States that were part of EPA's uniform cost-thresholds, trading program, downwind benefits justification, and the like. *Belmont Mun. Light Dep't v. FERC*, 38 F.4th 173, 188 (D.C. Cir. 2022). EPA does not and cannot argue that "the agency would have adopted" the same plan for 11 States by, for example, imposing the exact same emissions controls on those 11 States had it known a bevy of upwind States would not also have been subject to those controls. *Am. Fuel & Petrochemical Manufacturers v. EPA*, 3 F.4th 373, 384 (D.C. Cir. 2021). EPA cannot lawfully salvage a rule in shambles by implementing the bits and pieces still left. The Federal Plan is a shell of its original self, rendering the analysis underpinning the rule incoherent and irrelevant. It will likely be vacated after full merits consideration and therefore must be stayed now.

B. Even if the Federal Plan Still Consisted of All 23 States, It Would Nonetheless Violate the Clean Air Act.

Even assuming that the Federal Plan EPA is now implementing is the one that underwent notice-and-comment rulemaking, Applicants are likely to prevail

because the Plan violates the Clean Air Act and this Court's precedent. It unlawfully "over-controls" emissions and capriciously includes non-power generating industrial sources, contrary to the statutory requirements and EPA's own analysis.

1. This Court has explained that EPA cannot "over-control": it "cannot require a State to reduce its output of pollution by more than is necessary to achieve attainment in every downwind State" or by more than would be necessary for a particular state to eliminate all of its "significant[]" contributions to downwind sites. *EME Homer*, 572 U.S. at 521-22. But that is exactly what the Federal Plan is designed to do.

EPA first determined what emissions budgets are necessary to ensure compliance with the Good Neighbor provision, as it had with prior rulemakings. 88 Fed. Reg. at 36,754 (projecting emissions budgets to be a "full remedy" by the conclusion of the 2026 ozone season). Then, on top of that, EPA imposed "enhancements" for power plants to further ratchet the budgets downward—regardless of whether further ratcheting is needed to eliminate significant contribution. *See id.* at 36,764 (explaining "enhancements" are to "better sustain incentives to control emissions over time"); *id.* at 36,751 (declining to evaluate over-control after EPA's dynamic budget enhancements take effect in 2030); *see also id.* at 36,685.

For example, EPA set each State's annual emissions budgets for its cap-and-trade program at the level of emissions sufficient to eliminate significant downwind contributions. But beginning in 2030, an enhancement called "dynamic budgeting" will reduce the State's budget if a power plant shuts down or limits operation, or if a

State otherwise does not use allowances available to it. *Id.* at 36,663. In each of those scenarios, changes on the ground mean a large amount of the emissions that EPA deemed to be "contributing significantly" to downwind ozone are not occurring, making the State's contribution to downwind locations less significant or possibly insignificant. Nonetheless, dynamic budgeting would shrink the entire budget for the State, making the budgets more stringent and well-below what EPA already determined was necessary to eliminate significant contribution. That facially and systematically over-controls.

Similarly, EPA's "enhancements" require certain power plants to relinquish some of their unused allowances when they bank more than enough to comply with the cap-and-trade budgets or emit above certain amounts. *Id.* at 36,664, 36,766. EPA tacitly concedes that this is not to prevent significant contribution, but rather to "continuously incentiviz[e] sources to reduce their emissions even when they already hold sufficient emissions allowances…." *Id.* at 36,766. Because those power plants would have already created or purchased sufficient allowances to eliminate significant contribution, however, the Federal Plan facially requires more than is necessary.

2. EPA also capriciously shoe-horned other sectors of the economy into the Federal Plan in excess of its authority.

EPA completely disregarded whether the substantial costs of including those sources could justify the nearly immeasurable benefit on air quality. EPA proposed a "uniform cost" framework to determine the "amount of emissions that is in excess of the emissions control strategies that EPA has deemed cost-effective" to eliminate

significant contributions. 88 Fed. Reg. at 36,676. In other words, it set a threshold ($7,500 per ton of reduction) above which control measures are too expensive to justify the purported benefit. As other Applicants explain with respect to pipeline engines, EPA then proceeded to ignore it. *See* Emergency Application for Stay of Final Agency Action During Pendency of Petitions for Review, *Kinder Morgan, Inc., et al. v. EPA* (Oct. 13, 2023).

For example, when EPA looked at cement kilns in its proposal, it wrongly assumed the kilns did not already have emissions controls for the relevant pollutants and determined they could achieve substantial reductions below the cost threshold on an industry-wide basis. *See* Portland Cement Association Comments at 9 (June 21, 2022) ("PCA Comments") (App'x 306) But three-quarters of the kilns EPA evaluated already had controls in place, so the tons of reduction would be much smaller (and therefore, the cost per ton much higher) than EPA predicted. *Id.* Despite being provided actual data on kiln emissions, *id.* at 9-10, EPA doubled down on its false assumptions in the Federal Plan. 88 Fed. Reg. at 36,826; *see also id.* at 36,739 (showing projections of reductions with what EPA falsely assumed would be "additional" controls). If EPA had simply relied on the actual, verifiable data, rather than assumptions, it would have excluded cement kilns.

EPA's treatment of the costs for the paper industry is similarly baffling. EPA concluded that it could achieve a grand total of 0.0117 parts billion in ozone reductions (recall that the standard is 70 parts per billion) by requiring boilers at pulp and paper mills to install equipment that has never been used on them in the United States. *See* American Forest & Paper Association Comments at 6 (June 21,

2022), Docket ID No. EPA-HQ-OAR-2021-0668-0516 ("AF&PA Comments") (App'x 335); EPA's Non-EGU Screening Assessment Memo at 16, Docket ID No. EPA-HQ-OAR-2021-0668-0150, Table 5, *available at* https://t.ly/pzIM6; Noe Decl. ¶12. EPA wrongly estimated that it would cost $3,800 per ton to do so. Noe Decl. ¶10. That was off by an order of magnitude; the industry calculated the average cost at $37,900 per ton. *Id.* Rather than exclude these boilers, EPA came up with a new cost estimate of $14,134 per ton, 88 Fed. Reg. at 36,740, Table V.C.2-3, and provided new excuses for exceeding the original $7,500 per ton threshold, without providing any fair notice or opportunity to comment on this new threshold. *Id.* at 36,746.

Worse still, some of Federal Plan's requirements are completely unmoored from the proposal. The Federal Plan requires steel industry reheat furnaces to have in place a plan by August 2024 to install equipment called "Low NOx Burners" and to achieve a 40% reduction in nitrogen oxide emissions from those furnaces by 2026. *Id.* at 36,879. But this requirement was not in the proposal at all. So, the steel industry had no opportunity to comment on it. Accordingly, regulated sources need to make immediate decisions in 2023 on whether to upgrade or retire furnaces and natural gas boilers in advance of judicial review of the Federal Plan. Balserak Decl. ¶¶6-8.

In short, even EPA's Federal Plan as originally envisioned was fundamentally flawed. Applicants are therefore likely to succeed on the merits for these reasons, too.

II. Absent a Stay, the Applicants and Their Members Will Suffer Substantial Irreparable Harms.

The Applicants and their members will suffer irreparable harm if the Federal Plan is not stayed. "[C]omplying with a regulation later held invalidated almost *always* produces the irreparable harm of nonrecoverable compliance costs." *Thunder Basin Coal Co. v. Reich*, 510 U.S. 200, 220-21 (1994) (Scalia, J., concurring) (emphasis in original). In *Philip Morris v. Scott*, 131 S. Ct. 1 (2010) (Scalia, J., in chambers), Justice Scalia recognized that "[i]f expenditures cannot be recouped, the resulting loss may be irreparable." *Id.* at 4. He accordingly found irreparable harm had adequately been demonstrated where the applicants showed they would irrevocably expend $270 million before the Court could even consider the claim. *Id.* Economic injuries are also irreparable when unlawful agency action deprives companies of "very significant future revenues" which will be "permanently" lost, even if the action is ultimately overturned. *In re NTE Connecticut, LLC*, 26 F.4th 980, 991 (D.C. Cir. 2022).

Applicants and their members face both kinds of irreparable harm. The Federal Plan requires Applicants and their members to reduce emissions drastically. To reach compliance in time, they will have to immediately begin the process of installing prohibitively expensive emissions controls, incurring "hundreds of millions of dollars in capital compliance and construction costs." Farah Decl. ¶12; *see also* Brown Decl. ¶36; Balserak Decl. ¶¶9-10; Maule Decl. ¶6; Piotrowski Decl. ¶5; Toso Decl. ¶34-36.

Sources that cannot feasibly install new emissions controls will be forced to buy emissions allowances from other parties, decrease their production, or cease

operations altogether. Marshall Decl. at 2-3 (explaining sources may need to "reduce generating hours to meet emission restrictions" if "sufficient allowances" are not available); Balserak Decl. ¶8 (explaining sources "will need to immediately make a decision … on whether to upgrade or retire" units); Alban Decl. ¶27 (Federal Plan will "likely force many baseload generation assets to retire"); Brown Decl. ¶21 (explaining the Federal Plan will require OVEC to either transition a unit to only seasonal production or consider retirement); Toso Decl. ¶37 (PCA member has identified a real possibility it may cease operations). And because there will be both fewer emissions allowances and higher demand as a result of 12 States being removed from EPA's intended Federal Plan, utility sources will be forced to either purchase allowances at a significantly higher premium or curtail operations. Farah Decl. ¶11 (explaining a spike in demand for allowance prices in 2022 imposed an additional $50 million in operating costs for a single plant); Brown Decl. ¶20 ("OVEC can no longer rely on a viable allowance trading market … to meet future compliance obligations.").

Even setting aside the costs of the emissions controls themselves, electric generating units and industrial facilities will incur significant additional costs related to "the process of initiating engineering, design, and procurement" of controls by 2026 that "would be unnecessary" if the Federal Plan is held invalid. Balserak Decl. at 3-4; *see also* Brown Decl. ¶32 (OVEC must begin the "process immediately" and will "incur costs within the next six months"); Alban Decl. ¶24 (utilities have "very little time to develop power supply plans and environmental compliance plans"); Purvis Decl. ¶32; Farah Decl. ¶15 ("Mon Power will need to take imminent action in order to comply"); Champion Decl. ¶9 (Georgia Pacific will be required to "start

contracting immediately" to comply "with the tight timeframe"); Maule Decl. ¶7; Kotara Decl. ¶5; Piotrowski Decl. ¶7; Toso Decl. ¶30.

The paper industry, in particular, will incur significant costs to design, install, and operate new controls, some of which have never been applied in that industry. Noe Decl. ¶12. The capital costs of these investments for only three units of one company range from $45 to $125 million and will impact the market competitiveness of affected mills. Champion Decl. ¶¶6-8; *see also* Kotara Decl. ¶4. The total capital cost for such units in the paper industry would be $660 million. AF&PA Comments at 2.

As noted above, some companies may cease operations at specific sources altogether. For those sources that must reduce or cease their use of coal to comply with the Federal Plan, the Plan will also drastically harm the coal mine operators that supply those sources with their fuel. Brock Decl. ¶¶15-17; Adams Decl. ¶¶10-13; Hamilton Decl. ¶¶12-14; Bridgeford Decl. ¶¶11-14.

III. The Balance of Equities and the Public Interest Favor a Stay.

"In close cases the Circuit Justice or the Court will balance the equities and weigh the relative harms to the applicant and to the respondent." *Hollingsworth*, 558 U.S. at 190. Any such balancing also favors a stay. First, a stay will not harm any other parties. EPA ignored its statutory deadline to disapprove the State plans it now proposes to replace for years. It cannot now argue a brief stay will cause sweeping public harms. *See Texas v. EPA*, No. 23-60069, Stay Order, Slip Op. at 24 (5th Cir. May 1, 2023). Despite the Federal Plan's immediate harms to Applicants, it would not actually result in any significant emission reductions for years. *See* 88 Fed. Reg.

at 36,785-86, Table VI.B.4.c-1. Nor will a stay interfere with projected future declines in nationwide ozone levels due to existing, robust ozone controls and regulations already in place.

Second, the public interest strongly supports a stay. The significant compliance costs to electricity generators that the Federal Plan will inflict may be passed on to ratepayers, including some ratepayers who will not be able to bear additional energy costs. Brown Decl. ¶45; Alban Decl. ¶24; Purvis Decl. ¶¶24, 33, 58; Farah Decl. ¶14.

In addition, if regulated companies reduce operations or stop operating altogether, communities around the country will lose jobs and tax revenue. *See, e.g.*, Fuentes Decl. ¶¶5-7; Purvis Decl. ¶¶33, 35, 58; Farah Decl. ¶10; Brock Decl. ¶15. Because the Federal Plan will require sources to reduce their reliance on the most reliable power—like coal-fired generation—it will increase grid instability and unreliability. Fuentes Decl. ¶¶5, 8; Alban Decl. ¶¶26, 28; Purvis Decl. ¶¶25, 33, 54; Brown Decl. ¶27.

In addition, electric reliability experts and grid operators have noted reliability troubles that the Federal Plan will exacerbate. *See* PJM, Energy Transition in PJM (Feb. 24, 2023) at 7, *available at* bit.ly/3YirOCr (noting the combined result of the Federal Plan and others has "the potential to result" in "significant generation retirements" in a condensed time); North American Electric Reliability Corporation, 2023 Summer Reliability Assessment Infographic (May 2023) (noting reliability concerns), *available at* bit.ly/3qa6Jh4.

Finally, EPA's disapproval of State plans is being litigated in multiple circuits, and those courts have issued multiple stays. EPA's decision to forge ahead anyway

threatens an impossible tangle of regulatory obligations on sources, especially since the Federal Plan was designed to work with 23, not 11 States. A stay by this Court will allow orderly review of EPA's unlawful actions.

CONCLUSION

For the foregoing reasons, Applicants respectfully request an immediate stay of EPA's Federal Plan.

Dated: October 13, 2023

Respectfully submitted,

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EXHIBIT P:

Ohio, et al., State Applicants' Emergency Application for a Stay of Administrative Action, *Ohio v.* EPA (October 2023) ("State Emergency App.")

No. _____

In the Supreme Court of the United States

OHIO, ET AL.
Applicants

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.
Respondents.

ON APPLICATION FOR STAY OF ADMINISTRATIVE ACTION TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

STATE APPLICANTS' EMERGENCY APPLICATION FOR A STAY OF ADMINISTRATIVE ACTION

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The petitioners below included Ohio, Indiana, and West Virginia. This application refers to these States collectively as "the state applicants."

Other petitioners below included: Case No. 23-1157: State of Utah; Case No. 23-1181: Kinder Morgan, Inc.; Case No. 23-1190: American Forest & Paper Association; Case No. 23-1191: Midwest Ozone Group; Case No. 23-1193: Interstate Natural Gas Association of America and American Petroleum Institute; Case No. 23-1195: Associated Electric Cooperative, Inc., Deseret Generation & Transmission Co-Operative, d/b/a Deseret Power Electric Cooperative, Ohio Valley Electric Corporation, Wabash Valley Power Association, Inc., d/b/a Wabash Valley Power Alliance, America's Power, National Rural Electric Cooperative Association, and Portland Cement Association; Case No. 23-1199: National Mining Association; Case No. 23-1200: American Iron and Steel Institute; Case No. 23-1201: State of Wisconsin; Case No. 23-1202: Enbridge (U.S.) Inc.; Case No. 23-1203: American Chemistry Council and American Fuel & Petrochemical Manufacturers; Case No. 23-1205: TransCanada Pipeline USA Ltd.; Case No. 23-1206: Hybar LLC; Case No. 23-1207: United States Steel Corporation; Case No. 23-1208: Union Electric Company, d/b/a Ameren Missouri; Case No. 23-1209: State of Nevada; Case No. 23-1211: Arkansas League of Good Neighbors.

The respondents are Environmental Protection Agency and Michael S. Regan, Administrator, U.S. EPA.

TO THE HONORABLE JOHN G. ROBERTS, JR., CHIEF JUSTICE OF THE SUPREME COURT OF THE UNITED STATES AND CIRCUIT JUSTICE FOR THE DISTRICT OF COLUMBIA CIRCUIT:

The Clean Air Act pictures a world where the States and the EPA share responsibility for ensuring the nation's air quality. Relevant here, the Act allows each State to develop a plan to prevent emissions within its borders from significantly affecting other States' air quality. The EPA then reviews each State's plan. But that review is deferential: if a State's plan meets statutory requirements, the EPA "shall approve" it, regardless of whether the EPA has a better idea for how to accomplish the Act's goals. 42 U.S.C. §7410(k)(3). Correspondingly, the EPA has power to impose a federal plan *only if* a State fails to submit a statutorily compliant plan. *See* §7410(c)(1).

The EPA views its role much differently. In early 2022, it announced a plan to reject the air-quality plans of roughly half of the country's States. At nearly the same time, the EPA revealed its own federal plan, which relied on a coordinated, nationwide approach to emissions reductions. Despite many objections, the EPA finalized that plan in June. *Federal 'Good Neighbor Plan' for the 2015 Ozone National Ambient Air Quality*, 88 Fed. Reg. 36654 (June 5, 2023). This federal plan purports to establish emission-reduction standards for "23 upwind states." *Id.* at 36656. But due to a combination of litigation and interim rulemaking, a dozen of those States and over three quarters of the emissions that the plan sought to regulate, are already exempt from the plan. Nonetheless, the EPA insists that its federal plan should still apply in the remaining States.

The Court should stay application of this federal plan while many parties—including Ohio, Indiana, and West Virginia—challenge the plan in the D.C. Circuit. The challengers are likely to succeed on their claims under the Administrative Procedure Act. That Act requires federal agencies to reach decisions in a considered matter, so as to avoid arbitrary and capricious government action. 5 U.S.C. §706(2)(A). In promulgating the federal plan, the EPA did not meet that threshold. Tellingly, in just a few months, the federal plan is down to a sliver of what the EPA intended. And the federal plan's failures were both foreseeable and inevitable. Most glaringly, the EPA's rulemaking ignored obvious problems with its attempt to twist the Clean Air Act into a system of top-down regulation instead of the system of cooperative federalism that Congress intended.

The remaining stay factors also favor pausing the federal plan. The plan inflicts irreparable, economic injuries on the States and others every day it remains in effect. Worse still, the plan is likely to cause electric-grid emergencies, as power suppliers strain to adjust to the federal plan's terms. To prevent these harms, the Court should step in now.

JURISDICTION

This Court has jurisdiction to resolve this application under 28 U.S.C. §§1331 and 2101(f).

STATEMENT

1. In our federalist system, counteracting air pollution is supposed to be a cooperative effort. "Air pollution is transient, heedless of state boundaries." *EPA v. EME Homer City Generation, L.P.*, 572 U.S. 489, 496 (2014). Notwithstanding that

transience, "States and local governments" have traditionally shouldered the "primary responsibility" for controlling air pollution. *See* 42 U.S.C. §7401(a)(3). Against this backdrop, Congress passed the Clean Air Act "to encourage and assist the development and operation of regional air pollution prevention and control programs." §7401(b)(4). The Act is "an experiment in cooperative federalism" *Michigan v. EPA*, 268 F.3d 1075, 1083 (D.C. Cir. 2001). On the one hand, the Act tasks the EPA with establishing National Ambient Air Quality Standards for certain air pollutants. *Homer*, 572 U.S. at 498. (In this acronym-heavy field, regulators and stakeholders often refer to these standards as "NAAQS." The state applicants simply call them "air-quality standards.") On the other hand, the *States* retain "the primary responsibility for assuring air quality" within their borders, including the power to choose the "manner in which" they will satisfy the Act's demands. §7407(a).

States meet their obligations under the Act by crafting "state-implementation plans," often called "SIPs" in the field. These state plans implement air-quality standards by incorporating measures adequate to assure "compliance with the Act's requirements." *Homer*, 572 U.S. at 507. Among other things, a state plan must show that the State will comply with the Act's "good neighbor" provision, which requires "upwind States to reduce emissions to account for pollution exported beyond their borders." *Id.* at 499; *accord* §7410(a)(2)(D). To account for a State's good-neighbor obligations, a state plan must "contain adequate provisions" to prohibit in-state emissions from "contribut[ing] significantly to nonattainment in, or interfer[ing] with maintenance by, any other State" in its own compliance with air-quality standards.

§7410(a)(2)(D)(i)(I). But as "long as the ultimate effect of a State's choice of emission limitations is compliance with" national air-quality standards, "the State is at liberty to adopt whatever mix of emission limitations it deems best suited to its particular situation." *Train v. Natural Res. Def. Council*, 421 U.S. 60, 79 (1975).

The EPA, for its part, serves a "ministerial" role when reviewing state-implementation plans. *Texas v. EPA*, 829 F.3d 405, 411 (5th Cir. 2016) (quotations omitted). If a state plan meets the Act's requirements, the EPA "shall approve" it. §7410(k)(3). As a result, the EPA cannot disapprove a state plan merely because it believes there is a better way to achieve the Act's requirements. The Clean Air Act thus leaves "[e]ach State … wide discretion in formulating its plan." *Union Electric Co. v. EPA*, 427 U.S. 246, 250 (1976); *see also Train*, 421 U.S. at 79.

The EPA shall issue a "federal implementation plan" for a State to follow—sometimes called a "FIP"—*only if* the State's plan "does not satisfy the [Act's] minimum criteria." §7410(c)(1)(A). Federal plans, like state plans, must meet the Act's requirements. *See* §§7410(c)(1), 7602(y). Although the EPA has authority to promulgate a federal-implementation plan "at any time" after it disapproves of a State's plan, §7410(c)(1), the Act expects continued cooperation between the EPA and the State. For instance, if the EPA finds state plan inadequate, the Act anticipates that the EPA will provide an opportunity for "the State" to "correct[] the deficiency." §7410(c)(1)(B). To facilitate this back and forth with the States, the Act gives the EPA a two-year cushion between (1) the date it "disapproves a State implementation plan submission in whole or in part" and (2) the date it needs to issue a federal-

implementation plan. §7410(c)(1)(B). Consistent with that cushion, a State may submit a revised state plan any time in the two-year period before any federal plan would go into effect. *See* §7410(c)(1). All this fits with the Act's foundational principle that the *States* retain the "primary responsibility for assuring air quality." §7407(a). Congress viewed federal plans as a last resort.

2. In October 2015, the EPA revised air-quality standards for ozone pollution. *National Ambient Air Quality Standard for Ozone*, 80 Fed. Reg. 65292, 65301 (Oct. 26, 2015). That change triggered the States' obligation to update their state-implementation plans. §7410(a)(1). Relevant here, the updated state plans needed to include plans for how each State would satisfy the Act's "good neighbor" provision. §7410(a)(2)(D).

For a while, the process remained cooperative. In 2018, the EPA issued guidance to "assist states in developing" state-implementation plans for the new standards. *See Memorandum from Peter Tsirigotis* at 3 (Mar. 27, 2018), https://perma.cc/Y8YF-CQMB ("March Memorandum"); *see also Memorandum from Peter Tsirigotis* (Aug. 31, 2018), https://perma.cc/G8EN-RN8Q ("August Memorandum"); *see also Texas v. EPA*, No. 23-60069, 2023 U.S. App. LEXIS 13898, *6–7 & n.2 (5th Cir. May 1, 2023) (*per curiam*). The EPA included modeling parameters that the States could use in developing their plans, along with explanations of the appropriate threshold for determining whether emissions contributions are significant. *See* March Memorandum at Attachments B & C; August Memorandum 4. Further, the EPA "recommend[ed] that states reach out to EPA Regional offices and work together

to accomplish the goal of developing, submitting, and reviewing approvable" state plans. March Memorandum 6. Many States—including state applicants—accepted this offer and worked closely with the EPA to formulate compliant state plans. *See* App.C-6 (Crowder Decl. ¶¶14–15).

The States then submitted their state-implementation plans according to the EPA's advice. Ohio submitted its state plan in September 2018, Indiana in November of the same year, and West Virginia in February 2019. *See Air Plan Disapproval; Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin*, 87 Fed. Reg. 9838, 9845, 9849 (Feb. 22, 2022); *Air Plan Disapproval; West Virginia*, 87 Fed. Reg. 9516, 9522 (Feb. 22, 2022). Under the Act, the EPA had eighteen months to approve or disapprove of the proposed state plans. *See* §§7410(k)(1)(B), (k)(2). But it sat on the States' submissions for much longer. And for all that time, the EPA never hinted at a problem with the state plans.

Things suddenly changed in February 2022. On a single day, the EPA proposed to disapprove the submissions of nineteen different States. *See, e.g.*, 87 Fed. Reg. at 9852 (Ohio and Indiana); 87 Fed. Reg. at 9516 (West Virginia); *Air Plan Disapproval; Alabama, Mississippi, Tennessee*, 87 Fed. Reg. 9545 (Feb. 22, 2022); *Air Plan Disapproval; Arkansas, Louisiana, Oklahoma, Texas*, 87 Fed. Reg. 9798 (Feb. 22, 2022); *Air Plan Disapproval; Kentucky*, 87 Fed. Reg. 9498 (Feb. 22, 2022); *Air Plan Disapproval; Maryland*, 87 Fed. Reg. 9463 (Feb. 22, 2022); *Air Plan Disapproval; Missouri*, 87 Fed. Reg. 9533 (Feb. 22, 2022); *Air Plan Disapproval; New York and New Jersey*, 87 Fed. Reg. 9484 (Feb. 22, 2022). A few months later, the EPA

disapproved four more States' plans, bringing the total number of disapproved state plans to twenty-three. *See Air Plan Disapprovals*, 88 Fed. Reg. 9336, 9337 n.6 (Feb. 13, 2023).

At that point, the EPA might have worked with the States to correct the perceived deficiencies in the state plans. *See* §7410(c)(1)(B). The EPA, however, chose a different course. Less than two months after proposing to disapprove the plans of nineteen States, and before the deadline for commenting on the disapprovals even expired, the EPA proposed its own federal-implementation plan. *Federal Implementation Plan Addressing Regional Ozone Transport*, 87 Fed. Reg. 20036 (Apr. 6, 2022). The proposed federal plan sought to "resolve" the good-neighbor obligations for roughly half of this country's States. *Id.* at 20038. More precisely, the EPA imposed a single, coordinated plan to reduce air pollution from 23 States based on a combined analysis of those States' upwind contributions to ozone pollution in downwind States. *Id*. Under this multi-state approach, the EPA purported to apportion the responsibility of reducing emissions "collectively" among "contributing upwind states." *Id.* at 20076. The EPA said that this coordinated approach would yield an "'efficient and equitable solution'" by imposing "uniform cost[s]" on "states that are collectively responsible for air quality." *Id.* (quoting *Homer*, 572 U.S. at 519); *see also id.* at 20060.

3. Over vehement protests, the EPA pushed on with its plan to control the nation's air quality. This past February, it finalized disapprovals for the state-implementation plans of over twenty States, including Ohio, Indiana, and West Virginia. 88 Fed. Reg. at 9336. Many States filed petitions in the courts of appeals challenging

the EPA's disapprovals. *See, e.g.*, *West Virginia v. EPA*, No. 23-1418 (4th Cir.); *Texas v. EPA*, No. 23-60069 (5th Cir.); *Kentucky v. EPA*, No. 23-3216 (6th Cir.); *Arkansas v. EPA*, No. 23-1320 (8th Cir.); *Utah v. EPA*, No. 23-9509 (10th Cir.); *see also* §7607(b)(1). Other States—including Ohio and Indiana—chose not to pursue litigation, hoping to work with the EPA to come up with a solution acceptable to all sides. *See* §7410(c)(1).

Litigation quickly highlighted the serious flaws in the EPA's mass disapproval of state-implementation plans. One court, for example, concluded that rather than performing a ministerial review of state plans under the Clean Air Act, *see above* 4, the EPA "exceeded its authority" by utilizing "non-statutory factors" during its evaluation. *Texas*, 2023 U.S. App. LEXIS 13898 at *16–18. That "approach invert[ed]" the Clean Air Act by denying the States their "primary" role in the regulation of air pollution. *Id.* at *19–20 (quotations omitted). Another problem was that the EPA analyzed state plans using modeling data that was not available when the States made their submissions. *Id.* at *24–25; *Kentucky v. EPA*, Nos. 23-3216/3225, 2023 U.S. App. LEXIS 18981, *10–11 (6th Cir. July 25, 2023). That choice unlawfully moved the "goalpost" on the States. *Texas*, 2023 U.S. App. LEXIS 13898 at *25. Yet another problem was that the EPA's review relied on "a material shift" from the earlier guidance it had offered to the States about how to meet their requirements. *Id.* at 23. And many States had used the EPA's earlier guidance, to their detriment, when crafting their state plans. *See id.* at *26; 87 Fed. Reg. at 9840–41.

As proves important later on, the EPA had not yet finalized its federal-implementation plan when the just-discussed litigation commenced. And as part of the comment process for the federal plan, commenters previewed the many legal problems with the EPA's disapprovals of state plans. *See* 88 Fed. Reg. at 36672; EPA, *Response to Public Comments* at 2–6, 9–11, 145–55, https://perma.cc/N7CK-3YTE. Those commenters proved prescient: before the EPA finalized the federal plan, the Fifth Circuit held that the EPA likely behaved unlawfully when it disapproved the state plans. *Texas*, 2023 U.S. App. LEXIS 13898 at *16. A panel of that court thus stayed the EPA's regulatory actions as to Texas and Louisiana. *Id.* at *31. The Sixth and Eighth Circuits also stayed the EPA's state-plan disapprovals pending judicial review. *See, e.g.*, *Kentucky*, 2023 U.S. App. LEXIS 13442 at *2; Order, *Arkansas v. EPA*, No. 23-1320 (8th Cir. May 25, 2023); Order, *Missouri v. EPA*, No. 23-1719 (8th Cir. May 26, 2023). Because only an operative state-plan denial can trigger the EPA's obligation to impose a federal one, *see* §7410(c)(1), the EPA necessarily lost its authority to impose a federal plan as to those States.

4. The EPA pressed on anyway, finalizing its federal-implementation plan in early June. 88 Fed. Reg. 36654. Notwithstanding litigation that threatened to disrupt the federal plan's multi-state approach, and courts staying the EPA's actions in several critical States, the EPA stuck with its nationwide plan. That is, the federal plan tries to resolve the good-neighbor obligations of "23 upwind states"—including Ohio, Indiana, and West Virginia—even though the EPA could not enforce it against

many of those same States from the outset. *Id.* at 36656; *see, e.g.*, *Texas*, 2023 U.S. App. LEXIS 13898.

The federal plan requires emissions reductions for each State that are based, in large part, on the "combined effect of the entire program across all linked upwind states." 88 Fed. Reg. at 36749. According to the EPA, the federal plan ensures "national consistency" by imposing "a uniform framework of policy judgments" across the country. *Id.* at 36673. And the EPA explained that a consistent rule across "all jurisdictions" was "vital" to ensuring that the burdens of regulation were divided efficiently and equitably among the States. *Id.* at 36691–92; *see also id.* at 36676–77, 36719, 36741. The final rule, the EPA concluded, is a "nationally applicable" action within the meaning of the Clean Air Act, "given the interdependent nature of interstate pollution transport" and the "large number of states" to which the federal plan applied. *Id.* at 36860. Pursuant to executive order, the EPA also assessed the federalism implications of its rulemaking. Surprisingly, the EPA claimed that its plan did "not have federalism implications" and would not "have substantial direct effects on the states." *Id.* at 36858.

The finalized federal plan is ambitious. It imposes specific emissions reductions on several new industrial stationary sources (referred to as "non-Electric Generating Units" or "non-EGUs") for the first time in decades with respect to the Act's good-neighbor provision. *See id.* at 36654, 36681. It also permits power plants within the States to participate in an overhauled cap-and-trade program, but imposes "enhancements" that reduce flexibility and create costly compliance challenges. *See*

id. at 36762–70. Specifically, the federal plan shrinks the tradeable allowance bank by removing "surplus … allowances" that "diminish[] the intended stringency" of the program. *Id.* at 36767. Future allowances will be so hard to come by that sources may be forced to choose between steep penalties, changing their operations, or shutting down.

Ostensibly, the EPA left open the possibility that a State could "replace" the federal plan with its own plan. *Id.* at 36838. But that is, in any real sense, impossible under the EPA's own logic. The EPA, for example, warned that the agency "does not anticipate revisiting its" regulatory framework and that any state plan will have to be "equivalent to" the federal plan. *Id.* at 36839. That is, the EPA "anticipate[s] that states seeking to replace the" federal plan with a state plan "that takes an alternative approach" will "need to establish, at a minimum, an equivalent level of emissions reduction to what the [federal plan] requires." *Id.* The EPA further said that "[t]he most straightforward method for a state to submit a presumptively approvable" state plan is to provide a plan that looks much like the federal plan. *See id.* at 36842.

5. After finalizing the federal plan, the EPA continued to receive bad news in courts around the country. The Sixth, Ninth, and Tenth Circuits joined the Fifth in concluding that the States had a strong case that the EPA's state-plan disapprovals were illegal. *Kentucky*, 2023 U.S. App. LEXIS 18981 at *10–11; Order at 2, *Nevada Cement Co. v. EPA*, No. 23–682 (9th Cir. July 3, 2023); Order at 4, *Utah v. EPA*, No. 23-9509 (10th Cir. July 27, 2023). The Fourth and Eleventh Circuits also stayed the EPA's actions, without analysis, to allow for judicial review of challenges to state-

plan disapprovals. *See* Order, *West Virginia v. EPA*, No. 23–1418 (4th Cir. Aug. 10, 2023); *Alabama v. EPA*, No. 23-11173 (11th Cir. Aug. 17, 2023). At this point, *every circuit* to have considered staying a state-plan disapproval—seven in total—has granted a stay.

Eventually, the EPA acknowledged the broad implications of this nationwide litigation for its federal-implementation plan. In late July, the EPA issued an interim final rule reacting to litigation over state-plan disapprovals. *Response to Judicial Stays of SIP Disapproval Action for Certain States*, 88 Fed. Reg. 49295 (July 31, 2023). The interim rule stayed the federal plan's application to Arkansas, Kentucky, Louisiana, Mississippi, Missouri, and Texas. *Id.* at 49295.

A few weeks ago, the EPA issued another interim final rule responding to the next wave of judicial orders halting its state-plan disapprovals. *Response to Additional Judicial Stays of SIP Disapproval Action for Certain States*, 88 Fed. Reg. 67102 (Sept. 29, 2023). In this second interim rule, the EPA expanded its stay of the federal plan to six additional states: Alabama, Minnesota, Nevada, Oklahoma, Utah, and West Virginia. *Id.* at 67102. For West Virginia, however, the stay may be lifted in a matter of weeks. The length of the Fourth Circuit's stay is tied to an oral argument, scheduled for October 27, in litigation pertaining to West Virginia's state-plan disapproval. *See id.* at 67103. Notably, during its interim rulemaking the EPA again concluded without explanation that its actions would have no federalism implications. 88 Fed. Reg. at 49301; 88 Fed. Reg. at 67105.

At this point, the federal plan—a plan designed to apply collectively to the "interdependent" emissions from "23 upwind states," *see* 88 Fed. Reg. at 36656, 36860—applies to only 11 States. That means, in comparison to the federal plan's stated intent, it now regulates only 11% of the emissions from electric-generating units and about 40% of the emissions from industrial sources. *See* EPA, *Good Neighbor Plan for 2015 Ozone NAAQS* (last updated June 30, 2023)*, computed from data maps available at* https://www.epa.gov/csapr/good-neighbor-plan-2015-ozone-naaqs. All in all, *over 75%* of the emissions that the federal plan originally set out to control are presently exempt from the federal plan. *See id.*

6. The federal-implementation plan became effective on August 4, 2023. 88 Fed. Reg. at 36654. Before that effective date, Ohio, Indiana, and West Virginia filed a petition in the D.C. Circuit challenging the federal plan. Several other petitioners, representing various other States and various private industries, also challenged the federal plan. Shortly after filing their petitions, the States and private petitioners moved to stay the federal plan pending judicial review. The States argued, among other things, that the EPA's rulemaking process circumvented the Clean Air Act's cooperative-federalism mandate by forcing its own top-down control over state-level air-pollution reduction.

In late September, a divided panel of the D.C. Circuit Court of Appeals denied the motions to stay without analysis. App.A-1–2. One judge—Judge Walker—dissented stating that he would have granted the stay. App.A-1.

7. The States now bring this application for a stay.

REASONS TO GRANT THE APPLICATION

In deciding whether to issue a stay, this Court considers "four factors: '(1) whether the stay applicant has made a strong showing that he is likely to succeed on the merits; (2) whether the applicant will be irreparably injured absent a stay; (3) whether issuance of the stay will substantially injure the other parties interested in the proceeding; and (4) where the public interest lies.'" *Nken v. Holder*, 556 U.S. 418, 434 (2009) (quoting *Hilton v. Braunskill*, 481 U.S. 770, 776 (1987)). The first two factors "are the most critical." *Id.*

Here, each factor favors a stay. Although the States retain "the primary responsibility for assuring air quality," 42 U.S.C. §7407(a), the EPA persists in unlawfully imposing its vision of air-quality regulation. After disapproving the state-implementation plans of nearly half the States in the Union, the EPA finalized a *single* federal-implementation plan for all of them. *Federal 'Good Neighbor Plan' for the 2015 Ozone National Ambient Air Quality*, 88 Fed. Reg. 36654 (June 5, 2023). The EPA purported to set emission-reduction standards through a coordinated plan designed to reduce the collective emissions of "23 upwind States" under the Clean Air Act's good-neighbor provision. *Id.* at 36656, 36860. Yet, after just a few months, the federal plan is already a disaster. The plan now applies to only 11 of the 23 States it was supposed to cover. And it reaches less than 25% of the emissions it set out to regulate. But rather than admitting failure and returning to the drawing board, the EPA has doubled down on its "dictatorial" quest for top-down control on reducing air pollution. *Texas v. EPA*, No. 23-60069, 2023 U.S. App. LEXIS 13898, *28 (5th Cir. May 1, 2023).

Because this case presents important issues, because the States will likely prevail on the merits, and because the States will suffer in the meantime, the Court should step in now to stay the federal plan pending judicial review.

I. The States will likely prevail on the merits.

A. The Administrative Procedure Act requires federal courts to set aside agency action that is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. §706(2)(A). Applying this text, "administrative agencies are required to engage in reasoned decisionmaking." *Michigan v. EPA*, 576 U.S. 743, 750 (2015) (quotations omitted). "Not only must an agency's decreed result be within the scope of its lawful authority, but the process by which it reaches that result must be logical and rational." *Id.* (quotations omitted). This means that "agency action is lawful only if it rests on a consideration of the relevant factors." *Id.* (quotations omitted). And an agency must "display awareness" of the surrounding context in which it operates and "provide reasoned explanation for its action." *FCC v. Fox TV Stations, Inc.*, 556 U.S. 502, 515 (2009). Along the same lines, "an agency may not entirely fail to consider an important aspect of the problem when deciding whether regulation is appropriate." *Michigan*, 576 U.S. at 752 (alterations accepted, quotations omitted).

It follows from these principles that an agency has an "obligation to acknowledge and account for" the "regulatory posture the agency creates." *Portland Cement Ass'n v. EPA*, 665 F.3d 177, 187 (D.C. Cir. 2011) (*per curiam*); *accord Zen Magnets, LLC v. Consumer Prod. Safety Comm'n*, 841 F.3d 1141, 1150 (10th Cir. 2016). Said another way, an agency cannot ignore the effects—or likely effects—of

"contemporaneous and closely related rulemaking." *Portland Cement Ass'n*, 665 F.3d at 187; *see also Office of Commc'n of United Church of Christ v. FCC*, 707 F.2d 1413, 1441–42 (D.C. Cir. 1983). An agency must instead offer a "satisfactory explanation," which takes a "hard look" at any "salient problems" arising from the regulatory landscape. *Portland Cement Ass'n*, 665 F.3d at 187 (quotations omitted). To be sure, an agency "must promulgate rules based on the information it currently possesses." *Id.* But that does not give an agency license to ignore "obvious" trends, *see Zen Magnets, LLC*, 841 F.3d at 1150, particularly when those trends are a product of the agency's "own process," *see Portland Cement Ass'n*, 665 F.3d at 187.

B. Turning to this case, the federal plan is already a failed experiment. It applies to less than half of the States, and under a quarter of the emissions, that it set out to regulate. In reality, the federal plan was always doomed; the EPA's carefully timed gambit to work around the Clean Air Act's structure of cooperative federalism was never going to work. With any reasoned consideration, the EPA would have known as much. Indeed, *every circuit* to have considered a state-plan disapproval—seven in total—has stayed the EPA's action. And some did so before the federal plan was even finalized. All told, the EPA failed "to acknowledge and account for" the surrounding regulatory landscape. *See Portland Cement Ass'n*, 665 F.3d at 187. As a result, the state applicants are likely to succeed on the merits.

Begin with where we are now. Since promulgating its federal-implementation plan (just a few months ago), the EPA has issued two interim rules that exempt a dozen States from the plan. *Response to Judicial Stays of SIP Disapproval Action for*

Certain States, 88 Fed. Reg. 49295 (July 31, 2023); *Response to Additional Judicial Stays of SIP Disapproval Action for Certain States*, 88 Fed. Reg. 67102 (Sept. 29, 2023). These exemptions block the federal plan from achieving its purpose. As the EPA suggests, upwind States' contribution to pollution in downwind States will "substantial[ly] decrease" when upwind states "collectively" participate in the emissions-reduction program. *See id.* at 36683. The data bears this out. After exempting a dozen States, the federal plan regulates only (1) about 11% of the emissions from electric-generating units it intended to regulate and (2) about 40% of emissions from industrial sources it intended to regulate. *See* EPA, *Good Neighbor Plan for 2015 Ozone NAAQS* (last updated June 30, 2023)*, computed from data maps available at* https://www.epa.gov/csapr/good-neighbor-plan-2015-ozone-naaqs. Overall, more than 75% of the emissions that the federal plan set out to control are now exempt from the federal plan. *See id.* The federal plan is but a shell of its original self.

This result was entirely foreseeable. It stems from the EPA's refusal to engage with the cooperative federalism the Clean Air Act requires. Recall that the Act establishes a system under which the States retain the "primary responsibility for assuring air quality." 42 U.S.C. §7407(a). As Congress wrote it, the EPA plays a secondary, "ministerial" role when reviewing state-implementation plans. *Texas v. EPA*, 829 F.3d 405, 411 (5th Cir. 2016) (quotations omitted). But here, the EPA has cast itself in the leading role. In February 2022, the EPA launched a coordinated attack on the state plans of nearly twenty States. *See Air Plan Disapproval; Alabama, Mississippi, Tennessee*, 87 Fed. Reg. 9545 (Feb. 22, 2022); *Air Plan Disapproval;*

Arkansas, Louisiana, Oklahoma, Texas, 87 Fed. Reg. 9798 (Feb. 22, 2022); *Air Plan Disapproval; Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin*, 87 Fed. Reg. 9838 (Feb. 22, 2022); *Air Plan Disapproval; Kentucky*, 87 Fed. Reg. 9498 (Feb. 22, 2022); *Air Plan Disapproval; Maryland*, 87 Fed. Reg. 9463 (Feb. 22, 2022); *Air Plan Disapproval; Missouri*, 87 Fed. Reg. 9533 (Feb. 22, 2022); *Air Plan Disapproval; New York and New Jersey*, 87 Fed. Reg. 9484 (Feb. 22, 2022); *Air Plan Disapproval; West Virginia*, 87 Fed. Reg. 9516 (Feb. 22, 2022). As it just so happened, the EPA had a single federal plan ready to go for all of these States in less than two months. *Federal Implementation Plan Addressing Regional Ozone Transport*, 87 Fed. Reg. 20036 (Apr. 6, 2022). And the EPA's finalized federal plan drives home the agency's mindset. It appears that in the EPA's view, the only acceptable state plan is one that is functionally equivalent to its own. *See* 88 Fed. Reg. at 36839.

Unsurprisingly, the EPA's thinly veiled attempt to transform the Clean Air Act into a top-down system of regulation led to problems in the EPA's decisionmaking process. Two related features of the federal-implementation plan contribute to the problems. *First*, the EPA's authority to issue a federal-implementation plan kicks in only if the agency properly disapproves a state-implementation plan. *See* 42 U.S.C. §7410(c)(1). Thus, the EPA had authority to issue a nationwide federal-implementation plan only if the EPA properly disapproved the state plan of every covered State. *Second*, the federal plan at issue here relied on a multi-state analysis to reach an "efficient and equitable solution" for how to "apportion emissions reduction responsibilities among upwind states that are collectively responsible for downwind air

quality." 88 Fed. Reg. at 36719 (quotations omitted). In other words, the EPA's multi-state analysis was based on the participation of all "23 upwind states" that would be subject to the federal plan. *See id.* at 36667. Thus, as the EPA has since admitted in litigation, its plan "depends on the continuing operation of 'interdependent' interstate mechanisms, like the allowance trading program, that reach beyond state or regional borders." EPA Motion to Dismiss or Transfer at 16, *Oklahoma v. EPA*, 23-9561 (10th Cir. July 20, 2023); *see also* 88 Fed. Reg. at 36691 (explaining that "consistency" across "all jurisdictions is vital").

Putting all of this together, the EPA failed to consider a relevant factor during its decisionmaking: namely, the numerous and obvious flaws in its decisions to disapprove state-implementation plans. For one thing, the EPA began by disapproving state plans *en masse*. And it used non-statutory factors to deny those plans, relied on data unavailable to the States at the time of their submissions, and contradicted its own earlier guidance. *See Texas*, 2023 U.S. App. LEXIS 13898 at *16–28. Importantly, the EPA was well *aware* of these flaws when it was finalizing its federal plan. Many States had immediately gone to court upon disapproval of their plans. *See above* 7–8. And commenters had pointed out the many legal issues with the EPA's disapproval. *See* EPA, Response to Public Comments at 2–6, 9–11, 145–55, https://perma.cc/N7CK-3YTE. The Fifth Circuit had too. Recall that it granted a stay, and held the EPA's actions likely unlawful, *before* the EPA finalized the federal plan. *Texas v. EPA*, No. 23-60069, 2023 U.S. App. LEXIS 13898 at *16–28. And other circuits had also begun to stay the EPA's actions by late spring, before the federal

plan was finalized. *See Kentucky v. EPA*, Nos. 23-3216/3225, 2023 U.S. App. LEXIS 13442 (6th Cir. May 31, 2023); Order, *Arkansas v. EPA*, No. 23-1320 (8th Cir. May 25, 2023); Order, *Missouri v. EPA*, No. 23-1719 (8th Cir. May 26, 2023).

Thus, by the time the EPA finalized its federal plan, there was a strong likelihood—if not a near certainty—that the federal implementation would *not* go into effect for all "23 upwind states," as intended. 88 Fed. Reg. at 36667. Armed with that likelihood, any reasonable decisionmaker would have stopped to consider this question: Will the federal-implementation plan still be an effective, "efficient[,] and equitable solution" for the covered upwind States if it does not apply collectively to all of them? *See id.* at 36719. The EPA never seriously grappled with that inquiry, even though many courts had already stayed its actions. Instead, the EPA uncritically proceeded under the assumption that its plan would go into effect for all "23 upwind states." *Id.* Along related lines, the EPA never acknowledged the serious federalism implications of its plan, including the likelihood that the federal plan would *not* apply uniformly to all 23 upwind states that the EPA intended to cover. *See id.* at 36858; *see also* 88 Fed. Reg. at 49301; 88 Fed. Reg. at 67105.

The EPA also never adequately considered a smaller, severed version of the federal plan. True, the EPA asserted, without legal analysis, that its plan would be severable. *Id.* at 36693. But its reasoning was conclusory at best: that the federal plan should be severable because some air-quality regulation is better than none. *See id.* That broad brush dodges the key question of whether the federal implementation plan remains a fair and effective division of emission-reduction responsibilities when

its application is not uniform. Take, as just one consideration, the issue of competitive balance among States. Upwind states actually subject to the federal plan will face significant compliance burdens and other economic injuries. *Below* 23–26. They will thus be at a competitive disadvantage to upwind States exempt from the plan. The EPA's severability rationale gives this and other consequences of unequal application (including consequences for private parties) no thought. In short, if the EPA's some-regulation-is-better-than-nothing approach counts as reasoned decisionmaking, then anything does.

*

At bottom, the federal-implementation plan is arbitrary and capricious. It no longer achieves its original goal to set federal emission-reduction standards for 23 upwind States. And the federal plan's failures were both predictable and inevitable. During its rulemaking, the EPA failed to grapple with the regulatory mess it created when it took a combined regulatory action against more than 20 different States; and then forced them to accept a *single*, coordinated federal plan. The EPA's desire to force a square peg (a federal air-quality plan) into a round hole (a cooperative, state-driven system) was always going to be a poor fit. Because the EPA failed to confront that reality, it failed to engage in the reasoned decisionmaking required under the Administrative Procedure Act.

3. The D.C. Circuit did not explain its reasons for denying the States a stay. *See* App.A-1–2. But two objections to the States' arguments, that the EPA raised in briefing below, are worth addressing here.

First, the state applicants' arguments do *not* amount to a collateral attack on the disapprovals of their state-implementation plans. As mentioned already, Ohio and Indiana did not challenge the EPA's disapproval of their state plans. (Remember, however, that West Virginia did. *West Virginia v. EPA*, No. 23–1418 (4th Cir.).) It follows that Ohio and Indiana will be subject to regulatory plans that are different from the plans they proposed. But it does not follow that they must accept an unlawful federal-implementation plan. Here, because the federal plan takes a multi-state approach, its lawfulness is necessarily intertwined with the lawfulness of the EPA's various state-plan disapprovals. Put another way, the potential effects of "a contemporaneous and closely related rulemaking" process were something the EPA needed to consider when promulgating its federal plan. *Portland Cement Ass'n*, 665 F.3d at 187. The EPA's failure to do so renders the federal plan unlawful. The state applicants—as regulated States under the federal plan—are free to challenge the federal plan, and they could not have done so before the EPA finalized the plan.

Second, this Court's decision in *EPA v. EME Homer City Generation, L.P.*, 572 U.S. 489 (2014), does nothing to upset the States' arguments. There, the Court resolved a procedural issue and two merits issues. Procedurally, the Court held that States could challenge a federal-implementation plan even though they had not challenged the disapproval of their "particular" state-implementation plans. *Id.* at 507. The Court said that the "gravamen" of the States' challenge was not the illegality of disapproval, but instead that the EPA failed to meet statutory obligations before imposing a federal-implementation plan. *Id.* at 507. So too for Ohio and Indiana. The

gravamen of their challenge is not the disapproval of their particular state plans. Rather, they challenge the EPA's failure to engage in reasoned decisionmaking, based on its failure to consider the consequences of litigation involving *other* States. On the merits, *Homer* held that once the EPA has found a state plan inadequate, it may issue a federal plan without giving the State further guidance. *Id.* at 508. The Court further held that the EPA may consider costs in allocating "emission reductions among upwind States." *Id.* at 524. Neither of those holdings relieve the EPA of its obligation to ensure that any federal plan is reasoned and follows the law—so those holdings are irrelevant to this case.

II. The States, their industries, and their citizens will be irreparably harmed without a stay.

Without a stay, the States have sustained—and will continue to sustain—serious, irreparable injuries. Before explaining why, however, the States pause for a coda. Although the Fourth Circuit stayed the EPA's state-plan disapproval as to one of the state applicants (West Virginia), absent further action that stay lasts only through October. *See Order*, ECF. 39, *West Virginia v. U.S.*, No. 23-1418 (4th Cir. Aug. 10, 2023). Thus, a stay is still essential for preventing further irreparable harm to all the state applicants.

Turn now to the harm inflicted by the federal-implementation plan. As explained in full shortly, the States are being harmed by the time, money, and other resources spent on complying with an unlawful federal mandate. *See, e.g.*, App.B-6, 9–10 (Hodanbosi Decl. ¶¶14–15, 22–25); *see* App.C-13–16 (Crowder Decl. ¶¶40–44); App.D-3, 4–11 (Lane Decl. ¶¶5, 7–22); App.E-5–6 (Farah Decl. ¶¶12–15). Because

these costs are unrecoverable against the federal government, the States are irreparably harmed every day that passes without a stay. *See Thunder Basin Coal Co. v. Reich*, 510 U.S. 200, 220-21 (1994) (Scalia, J., concurring in part); *see also Whitman-Walker Clinic, Inc. v. U.S. Dep't of Health & Hum. Servs.*, 485 F. Supp. 3d 1, 58 (D.D.C. 2020) (same and collecting examples); *Commonwealth v. Biden*, 57 F.4th 545, 556 (6th Cir. 2023).

For one thing, the federal plan directly imposes significant compliance burdens on the States. Under the federal plan, the States are responsible for issuing or updating Title V permits for covered sources within the State. *See* 88 Fed. Reg. at 36843–44; App.B-7–8 (Hodanbosi Decl. ¶¶18–19); App.C-14 (Crowder Decl. ¶41). Because each permit is unique to the needs of each facility, each permitting process will require rounds of drafting, staff review, public notice, public meetings, and responses to public comments. App.C-14–16 (Crowder Decl. ¶¶41–43); *see* App.B-7–8 (Hodanbosi Decl. ¶¶18–19). The permitting process is thus lengthy, resource intensive, and costly. The States should not have to deplete their coffers while waiting to see how this litigation—which could go on for months or, likely, years—plays out.

The compliance costs borne by the States do not end there. The federal plan also makes States responsible for ensuring that covered sources adequately monitor their emissions. *See* 88 Fed. Reg. at 36843; 40 C.F.R. §70.4. As a result, the States are currently expending significant resources to ensure that sources in their boundaries are aware of their obligations under the federal plan—which include monitoring, recordkeeping, and reporting obligations. *See Ohio EPA Correspondence with State*

Sources, (Aug. 23, 2023), https://perma.cc/83CB-9BZW. The States, in addition, ensure that covered sources within their borders are fitted with the necessary technology for monitoring emissions so that the sources can show compliance with the federal plan. *See id.*; App.B-10 (Hodanbosi Decl. ¶24). Consequently, the States must divert resources away from permitting other infrastructure projects—such as new and expanding power facilities—in order to comply with their compliance burdens under the federal plan. *See* App.C-15–16 (Crowder Decl. ¶43). That is no small matter: stopping or slowing progress on other critical infrastructure projects harms the public welfare.

The federal plan inflicts still other economic injuries on the petitioner States. It will severely undermine the States' electricity-generation capacity and destabilize the States' power grids. *See, e.g.*, App.B-3–6 (Hodanbosi Decl. ¶¶7–15); App.D-3–8, 10–11 (Lane Decl. ¶¶5–14, 17–19, 22); App.E-4–6 (Farah Decl. ¶¶10–15); PJM Interconnection, *Energy Transition in PJM: Resource Retirements, Replacements & Risk* (Feb. 24, 2023), https://perma.cc/PQA7-9P6K; *see also* North American Electric Reliability Corporation, *2023 Summer Reliability Assessment Infographic* (May 2023) at 6, https://perma.cc/A9G6-B398. PJM Interconnection—an entity that coordinates power in Ohio, West Virginia, and parts of Indiana—specifically identified the federal plan as a potential catalyst, among others, for "a significant amount of generation retirements within a condensed time frame." *Energy Transition in PJM: Resource Retirements, Replacements & Risk* at 7.

These electric-grid emergencies are not distant possibilities. One such emergency recently came to pass. App.B-5–6, 14–21 (Hodanbosi Decl. ¶13 and Exhibit A). In December 2022, PJM notified the United States Department of Energy that impending cold weather would threaten the electric grid that PJM operates and potentially cause an electricity shortage. *Id*. The Department responded by issuing an Emergency Order that temporarily suspended air-quality regulations and capacity limits on power sources, thus narrowly avoiding a disaster. *Id.* These emergencies are certain to increase in frequency as the federal plan forces more electricity generators into early retirement. And they threaten the States' operations and industries, and could leave the States' citizens unable to heat or cool their homes affordably, if at all. *See, e.g.*, App.D-3, 4–11 (Lane Decl. ¶¶5, 7–22).

Finally, the EPA's attempt at top-down control contradicts its obligation to respect the States' sovereign authority to regulate air quality within their borders under the Act. This "dictatorial" approach impedes the States' sovereignty by elevating the EPA to the role of primary regulator. *Texas*, 2023 U.S. App. LEXIS 13898 at *28; *Texas*, 829 F.3d at 434. A stay will protect the States' sovereignty from unlawful infringement while this case is decided on the merits.

III. Staying the federal plan will promote the public interest and will not substantially harm others.

The "public interest lies in a correct application of the federal constitutional and statutory provisions upon which the claimants" seek relief. *Coal. to Def. Affirmative Action v. Granholm*, 473 F.3d 237, 252 (6th Cir. 2006) (Sutton, J.) (quotations omitted). That is why the balance of the equities and the public interest merge when

the government is a party: enjoining unlawful government action inflicts no legally cognizable harm. *See Nken*, 556 U.S. at 435. Taken independently, too, both of these factors counsel in favor of a stay.

For one thing, the EPA faces no undue harm if the federal plan is stayed. The EPA is responsible for delaying the implementation of the 2015 air-quality standards. It sat for several years on the various state-plan submissions—well past the eighteen-month deadline by which it was to act—before denying them and imposing the federal plan. Any delay is thus a problem of the EPA's own doing. True enough, a stay would reduce the incentives to bring emissions into immediate compliance with the federal plan. But if the plan is illegal, the States should not be forced to comply with it. And the EPA's own actions, exempting a dozen States from the plan and over 75% of the emissions it sought to reduce, confirms that a pause while this case is decided on the merits will not harm the EPA or the country at large. At any rate, covered sources within the States would remain subject to the prior good-neighbor regimes, so this is not an all-or-nothing scenario.

Staying the federal plan also promotes the public interest in applying the law "correct[ly]." *Biden*, 57 F.4th at 556 (quotations omitted). Because the federal plan is arbitrary and capricious, staying its implementation is one step closer to applying the law correctly. Further, the public has a strong interest in having reliable electricity. The affected sources, which includes providers of natural gas, "provide power to … homes, farms, businesses and industries." *Hoosier Energy Rural Elec. Coop., Inc. v. John Hancock Life Ins. Co.*, 588 F. Supp. 2d 919, 934 (S.D. Ind. 2008). If

sources' ability to provide reliable electricity "is imperiled," the States may lose the "ability to fulfill [their] mission to the public." *Id.* After all, "a steady supply of electricity"—for example, to heat and cool facilities housing "the elderly, hospitals and day care centers"—is "critical." *Sierra Club v. Ga. Power Co.*, 180 F.3d 1309, 1311 (11th Cir. 1999) (*per curiam*). Staying a rule that threatens grid reliability thus serves the public interest.

CONCLUSION

The Court should stay the federal-implementation plan pending judicial review.

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